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442480

SUPPLEMENT III

TO

TECHNICAL REPORT 46

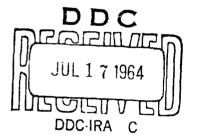
CATALOGED BY DDC AS AD NO.

THE A-IH/FIDAL CONCEPT

Sponsored by

Advanced Research Projects Agency

Project Agile
ARPA Order 256



JUNE 1964

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SUPPLEMENT III to
TECHNICAL REPORT 46

THE A-1H/FIDAL CONCEPT

This research was supported by the Advanced Research Projects Agency Project Agile under ARPA Order 256.

Lester W. Boyer

James W. Brown

Crops Division
DIRECTOR OF BIOLOGICAL RESEARCH

Project ARPA Order 256

June 1964

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THE A-1H/FIDAL CONCEPT

I. INTRODUCTION

A. BACKGROUND

The FIDAL (Fixed-wing Insecticide Dispersal Apparatus, Liquid) concept originated with Captain George S. Stains when he was Officer-in-Charge of the Disease Vector Control Center, Naval Air Station, Jacksonville, Florida.

Co 1 November 1962, OSD/ARPA issued the initial memorandum concerning FIDAL (Figure 1).

Figures 2, 3, and 4 are different views of the A-lH/FIDAL. Figure 5 shows the original FIDAL units that were built to test the concept of utilizing the airstream to rotate variable-pitch fans on the nose of the externally mounted tanks. Ordinarily these fans are in a feathered position and are activated electrically by the pilot to a predetermined pitch when spray release is desired. The fan is connected directly to a centrifugal pump that forces the spray liquid through a check valve that requires seven to ten pounds' pressure to open, thence into and through the boom and nozzles.

Three of these tanks can be carried by an A-1E (formerly AD-5) and an A-1H (formerly AD-6) aircraft. Two tanks are carried on wing stations and the third under the fuselage. For the latter station it is necessary to lock in the bottom dive brake while carrying a FIDAL tank. Each tank can carry 285 gallons of liquid fill or, for three tanks, about 850 gallons.

B. APPROACH

The questions listed in the text of Technical Report 46 are generally applicable to the testing of the FIDAL concept. Appendix E of that volume presents some details of preliminary planning for these tests.

ADVANCED RESEARCH PROJECTS AGENCY Washington 25, D. C.

1 November 1962

MEMORANDUM FOR THE ASSISTANT SECRETARY OF THE NAVY (R&D)

SUBJECT: Aerial Spray Equipment

The Army Materiel Command, through its CBR Agency, is engaged in a program of RDT&E with respect to aerial spray equipment on behalf of ARPA's Project AGILE.

Army personnel working on this program report that the Officer-in-charge, U. S. Navy Disease Vector Control Center, has originated an aerial spray concept utilizing modified Aero-IC auxiliary 300-gallon fuel tanks compatible with the A-IH (AD-6) aircraft (code name: FIDAL). If the feasibility of this concept is proven, it would represent a significant advance beyond the spray system (MC-1 equipment aboard C-123 aircraft) currently available for large-scale spray operations.

It is requested that the Navy fabricate six of the modified Aero-IC auxiliary 300-gallon tanks and determine, through development tests, the aerodynamic suitability of the tanks when installed on A-IH (AD-6) aircraft. (Two of the modified tanks are to be made available to the Air Force to test the suitability and effectiveness of the tanks when installed on USAF aircraft.) Upon completion of developmental work, it is further requested that the Navy, under the direction of appropriate representatives of the Army CBR Agency, assist in determining the effectiveness of the FIDAL system by employing it in spray tests at Eglin AFB. The system should be available for testing at Eglin by 1 December 1962, or as soon thereafter as practicable, in order to take advantage of facilities which will be in use at that time by the Army and the Air Force on related ARPA-sponsored tests. Target date for deployment of a FIDAL system for operation field testing outside CONUS is approximately 1 April 1963.

Army personnel engaged in the ARPA-sponsored program also have a requirement to perform tests to increase the dissemination capability of the HIDAL spray system. It is, therefore, requested that for this purpose the Navy/Marine Corps make available one UH-34 (HUS-1) helicopter, with HIDAL equipment installed, at Eglin AFB by 5 November 1962, or as soon thereafter as practicable, for a period of approximately one week.

It is understood, through informal discussion with representatives of CNO (OP-72), that the cost of the requested FIDAL development and provision of a FIDAL-equipped A-1H with crew for spray tests at Eglin is approximately \$44,000. It is further understood that the cost of the requested HIDAL-equipped UH-34 with crew for tests at Eglin is approximately \$1,000.

The following fund citation will be used for charges incident to the accomplishment of the requests contained herein: 21X4992.656 S18-064-X02259 CC5160.

It is requested that an estimate of the expenses to be charged against the above citation be furnished to: Commanding Officer, U. S. Army Biological Laboratories, Fort Detrick, Maryland, ATTN: Comptroller.

The point-of-contact in the Army for this project is Dr. J. Brown, Crops Division, Fort Detrick.

/s/ W. H. Godel

for J. P. Ruina Director

cc: OCRD
Hqs, USAF (AFOOP-CO)
CBR Agency
Army Materiel Command

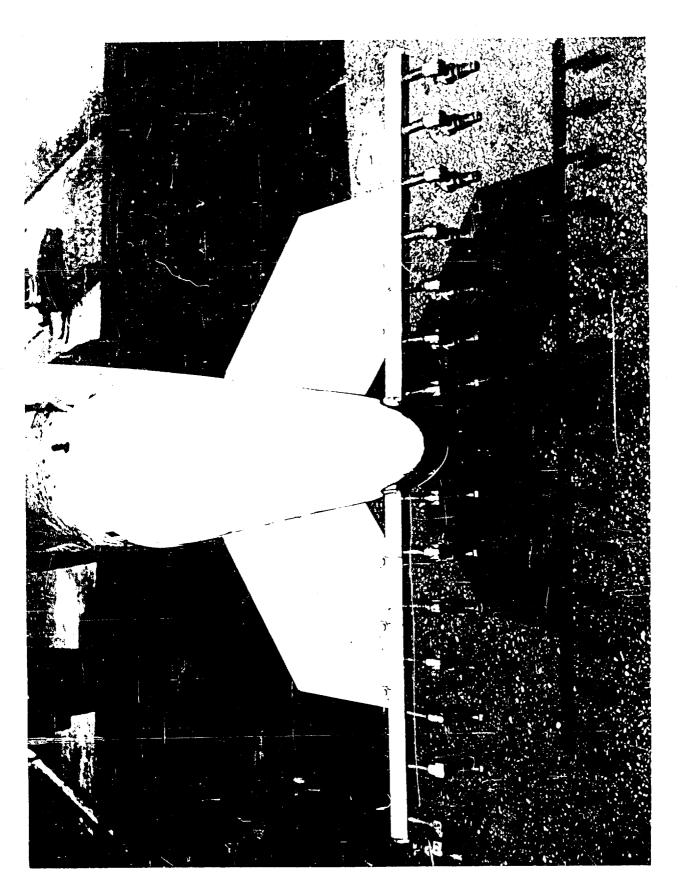
Figure 1. Memorandum from OSD/ARPA.



Figure 2. Three FIDAL Tanks Being Functioned in Flight. (FD Neg C-7504)



Figure 3. Filling a 285-Gallon FIDAL Tank. (FD Neg C-7503)



Nozzle Location on the Boom at the Rear of the FIDAL Tank. (FD Neg C-7088) Figure 4.

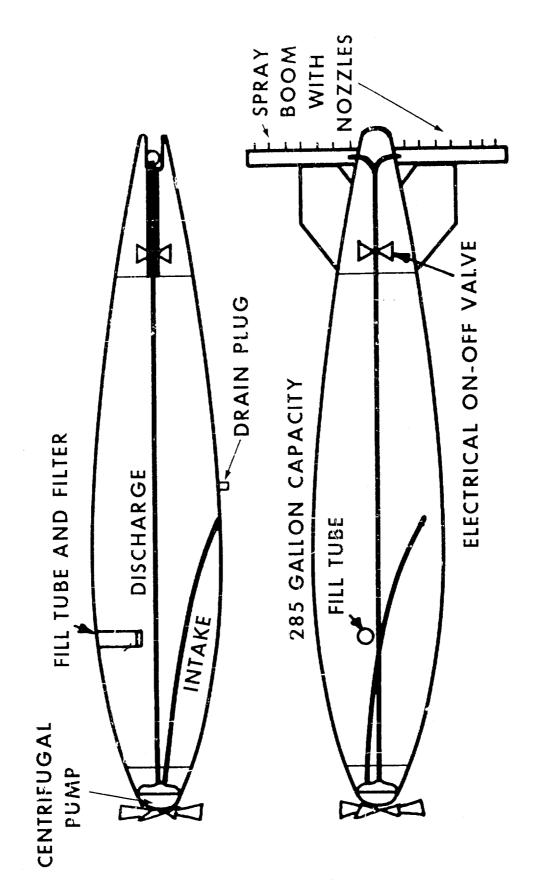


Figure 5. The FIDAL Concept.

II. METHODS*

Methods presented in Technical Report 46 and in Appendix F of that report are applicable to testing of the FIDAL. Ground flow rate determinations were handled as described below.

Flow rates of the FIDAL tanks were calibrated on the ground to obtain graphs relating boom pressure and pump rpm to flow rate for the three liquids sprayed. These ground flow checks were carried out at Field 2 test site on the remote edge of the concrete pad in front of the control tower at Eglin AFB. The FIDAL unit was supported by a wooden cradle with the tail boom extending through a slot into a rectangular aluminum tank of 160-gallon capacity that caught the fluid spray. The catch tank was calibrated in gallons per inch of height.

The FIDAL pump was driven by a 10-horsepower electric motor through a flexible coupling welded to an extra fan blade hub. The variable-speed motor allowed the pump rpm to be varied from about 3000 to 4200 rpm.

The calibration started by functioning the unit briefly to insure that the boom was full of liquid. The level of liquid in the catch tank and the temperature of the liquid in the FIDAL tank were measured. Then, with the motor running at a preset power setting, the electric gate valve was opened for a measured length of time, usually 60 seconds, during which the boom pressure was recorded and the pump rpm measured with a hand tachometer. After the gate valve was closed, the final liquid level in the tank was measured. The flow rate was calculated from the amount of liquid sprayed during the measured time interval.

Because the temperature of the liquid was found to increase approximately one-half degree Centigrade per run, a series of runs were made at a constant motor setting to determine the effect of the temperature change on the flow rate. The rate of change was found to be approximately one gallon per minute per degree Centigrade for the Purple material in the temperature span checked.

^{*} Prepared by Mr. Paul E. Wampner.

III. PESULTS AND DISCUSSION

At maximum pumping capacity each unit provided a flow of 105 gallons per minute for Purple and 115 for the mix of one part Purple, two parts fuel oil. Simultaneously functioning three tanks thus provided flows of 315 and 345 gallons per minute for these liquids.

Performance at various altitudes is shown in Table I.

TABLE I. AVERAGE SHATE WIDTES ONTAINED FROM SELECTED INVINE FLIGHTS UNDER INDICATED COMBITIONS

Liquid	Positions of Tanks	Altitude, feet	Deposit, gpa	Swath Width, feet
Purple	LCR	100	3	103
Purple	LCR	125	3	128
Purple	LCR	150	3	145
Purple	LCR	100	2	152
Purple	LCR	125	2	150
Purple	LCR	150	2	165
2 Fuel Oil, 1 Purple	LR	125	1.5	170
2 Fuel Oil, 1 Purple	1.R	150	1.5	175
2 Fuel Oil 1 Purple	LR	125	1.0	195
2 Fuel Oil, 1 Purple	LR	150	1.0	185
2 Fuel Oil, 1 Purple	С	7 5	1.5	60
2 Fuel Oil, 1 Purple	С	125	1.5	80
2 Fuel Oil, 1 Purple	С	7 5	1.0	70
2 Fuel Oil, 1 Purple	С	125	1.0	110

a. L = Left Tank; C = Center Tank; R = Right Tank.

During the calibration trials, 181 spray passes were made with FIDAL units. The data are presented in the Appendix to this Supplement. As malfunctions occurred, they were corrected and improvements were made on the spot by contractor representatives.* After the last spray pass, an imminent storm made it necessary for the plane to return to the air base at an airspeed somewhat greater than that specified in the design of the fan. As a result, the unfeathered nose fan flew apart and further tests were cancelled because of this hazard.

A different remmair turbine and pump combination has been suggested for the FIDAL and until test units can be modified, tested, and calibrated, the findings presented here should be accepted only as ball-park estimates for operational testing.

IV. CONCLUSIONS

The FIBAL concept is sound.

With suitable modification, such as a mock-up prepared by AGAVENCO, FIDAL units could be used to advantage for vegetation control in areas of military interest.

V. RECOMMENDATIONS

It is recommended that:

- (a) The FIDAL units be suitably modified, including turbines, pumps, and controls.
- (b) Until FIDAL units are suitably modified and tested, the following performance parameters for inwind flights spraying Purple be utilized to obtain coverage of three gallons per acre.

Aircraft A-1H
Altitude 150 feet
Airspeed 160 knots
Swath Width 145 feet
Nozzles U 5070
MMD 375 to 400 microns

^{*} Mr. Phillip Pickell was the Agricultural Aviation Engineering Company's (AGAVENCO) representative.

APPENDIX A

SELECTED DATA FROM FIDAL TESTS, JULY 1963

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 1 = Purple code material.
 2 = 1 part Purple, 2 parts fuel oil.
 5 = Foul oil.
 c X = Grosswind.

NA = Thoto panel record not available; 160 knots was requested.

R = High value tank.

C = Center tank.

L = Left wing tank.

Second figure represents a gap in the swath. Reference to individual curves will show significance of the gap.

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	æ	-	1	125	162	10H	350	340-20	250	240-20	240-30	180-50
	٠	,	1	125	166	T)	240	220	180	120	110	96
	<u>e</u>	-	•	125	191	MCL	380-40	300	200	0	93	120
	Ξ	-	×	120	159	ပ	650	420-80	190-70	0	•	o
23 Jul	-	-	,	100	091	ij	210	180	160	85	140	05-011
	~	-	i	100	160	BCI	300	230	200	170-20	16.0-30	2
	-	1	1	125	3	TCT	220	190	9	82	97	\$
	7	_	1	125	091	TCI I	270	760	0	180	170	160-30
	۶		•	125	160	JCT.	300	300	280	9	170-10	160-40
	¢	T.	,	125	39	BCL	310	290-20	9	3	150	2

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Country and a division

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													-				,
160-50	150-30	07-021	130-60	150-50	120-20	100-30	120-63	3	130-40	120-70	120	160-80	110	98	0	20	0
170-10	170-10	160-30	150-30	180	160	0.1	240-60	200	140-40	150-50	120	170-70	120	140	0	110	100-60
190	180	170	9	190	170	170	270-30	220	150	0.7-091	130	180-20	130	130-20	0	140-20	160-60
210	200	170	180	220	190	200	380-20	760	091	180-20	180	160	210	260	20	210	200
230	230	150	240	240	310	250	390	270	2.30	190	190	200	150	620-260	200-40	340	380-60
300	240	210	120-20	410.0	320	1000-110	007	350	270	200	200	220	260	720-110	270	680-110	680-220
ECT.	10	IICT	RCL	IICIT	IICI.	NCT.	HCT.	MCL	RCI.	EC1.	BCL	TOM	ECL	BCL	ပ	TO DECI	II
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,	x	5	01	Ξ	2	-	7	_	~•	-	7		ş	~	r	•	01
73 Juli						74 Jul		26 Jul									ļ

a. Flights of 26 May through 4 June were made with spray systems nearle US0120 without check valves. All subsequent flights used 3/8-inch check valves with US070 nearle.

b. 1 = part Mission of material.

2 = 1 part with code material.

1 = part Mission of the code material.

2 = 1 part with code material.

3 = 1 part with code material.

4 = part Mission of the code material.

5 = 1 part with code material.

6 = 1 part with code material.

7 = 1 part with code material.

8 = 1 part with code material.

9 = 1 part with code material.

9 = 1 part with code material.

1 = part with code material.

NA - Photo panel record not available; 160 knots was requested.

K - Right wing tank.
C - Gener tank.
L - Left wing tank.
Second figure represents a gap in the seath. Reference to individual curves will show significance of the gap.

And of the state of the state of the state of

FIDAL.
Selected Flights2/

Date 1963	Flight	Liquid2/	Tanks/	Altitude, feet	Nossle Type
26 Jul	3	1	LCR	100	5070
26 Jul	4	1	LCR	100	5070
23 Jul	1	1	LCR	100	5070
21 Jul	1	1	LCR	100	5070
21 Jul	2	1	LCR	100	5070
23 Jul	2	1	LCR	100	5070
24 Jul	1	1	LCR	100	5070
23 Jul	5	1	ica	125	5070
26 Jul	5	1	LCR	125	5070
21 Jul	3	ι	LCR	125	5070
21 Jul	4	1	LCR	125	5070
21 Jul	10	1	LCR	125	5070
23 Jul	3	1	LCR	125	5070
26 Jul	6	i	LCR	125	5070
21 Jul	9	ı	LCR	125	5070
23 Jul	4	1	LCR	125	5070
23 Jul	6	1	LCR	125	5070
23 Jul	11	1	LCR	125	5070
23 Jul	12	1	LCR	125	5070
21 Jul	6	1	LCR	150	5070
23 Jul	9	1	LCR	150	5070
23 Jul	10	1	LCR	150	5070
26 Jul	1	1	LCR	150	5070
26 Jul	2	1	LCR	150	5070
23 Jul	7	1	LCR	150	5070
23 Jul	8	1	LCR	150	5070
ll Jul	7	2	LCR	75	5070
14 Jul	7	2	LCR	7 5	5070
11 Jul	8	2	LCR	75	5070
ll Jul	13	2	LCR	75	5070
ll Jul	14	2	LCR	75	5070

į.

4

Date 1963	Flight	Γτάπτα <mark>ρ</mark> ∖	Tanke/	Altitude, feet	Nozzle Type
14 Jul	8	2	LCR	75	5070
14 Jul	9	2	LCR	75	5070
ll Jul	5	2	LCR	100	5070
11 Jul	6	2	LCR	100	5070
14 Jul	2	2	LCR	100	5070
14 Jul	4	2	LCR	100	5070
14 Jul	3	2	LCR	100	5070
14 Jul	5	2	LCR	100	5070
14 Jul	6	2	LCR	100	5070
15 Jul	1	2	LCR	100	5070
15 Jul	2	2	LCR	100	5070
11 Jul	2	2	LCR	150	5070
ll Jul	11	2	LCR	150	5070
ll Jul	9	2	LCR	150	5070
ll Jul	12	2	LCR	150	5070
15 Jul	3	2	LCR	150	5070
15 Jul	4	2	LCR	150	5070
ll Jul	1	2	LCR	150	5070
ll Jul	10	2	LCR	150	5070
ll Jul	3	2	LCR	200	5070
11 Jul	4	2	LCR	200	5070
15 Jul	7	2	LR	125	5070
15 Jul	8	2	LR	125	5070
15 Jul	5	2	ĿŖ	150	5070
:5 Jul	ó	2	Ľ.	150	5070
15 Jul	12	2	C	-5	5070
15 Jul	11	2	c	75	5070
15 Jul	:0	2	Ĉ	125	5370

<sup>a. Airspeed requested 160 knots.
b. 1 = Purple code material.
2 = 1 part Purple, 2 parts fuel oil.
3 = Fuel oil.
c. L = Left wing tank.
C = Center tank.
R = Right wing tank.</sup>

Date 1963	Flight	Liquid <u>b</u> /	Tank ^C	Altitude, feet	Hozzle Type
15 Jul	9	2	С	125	5070
31 Hay	4	3	LCR	100	50120
31 Mmy	3	3	LCR	100	50120
4 Jun	1	3	LCR	150	50120
4 Jun	2	3	LCR	150	5012
4 Jun	3	3	LCR	150	5012
4 Jun	4	3	LCR	150	5012
4 Jun	5	3	LCR	150	5012
4 Jun	6	3	LCR	150	5012
4 Jun	8	3	LCR	150	5012
21 Jun	3	3	LCR	50	5070
29 Jun	4	3	LCR	50	5070
11 Jun	3	3	LCR	100	5070
ll Jun	5	3	LCR	100	5070
11 Jun	8	3	LCR	100	5 070
ll Jun	9	3	LCR	100	5070
21 Jun	1	3	LCR	100	5070
21 Jun	2	3	LCR	100	5070
11 Jun	4	3	LCR	100	5070
11 Jun	6	3	LCR	100	5070
21 Jun	6	3	LCR	150	5070
21 Jun	8	3	LCR	150	5070
5 Jun	1	3	LCR	150	5070
5 Jun	3	3	LCR	150	5070
5 Jun	4	3	LCR	150	5070
21 Jun	5	3	LCR	150	5070
29 Jun	2	3	LCR	150	5070
5 Jun	2	3	LCR	150	5070
5 Jun	5	3	icr	150	5070
5 Jun	6	3	LCR	150	5070
5 Jun	8	3	LCR	150	5070
27 May	10	3	LR	100	5012
27 May	9	3	LR	100	5012

Date 1963	Flight	Liquid <u>b</u> /	Tank <u>e</u> /	Altitude, feet	Nozzle Type
26 May	tı	3	LR	150	50120
27 May	3	3	LR	150	50120
27 May	, b	3	LR	150	50120
15 Jun	1	3	LR	100	5070
15 Jun	2	3	LR	100	5070
15 Jun	5	3	LR	150	5070
15 Jun	- 6	3 .	LR	150	5070
21 Jun	q	/ 3	LR	150	5070
15 Jun	7	3	LR	150	5070
15 Jun	8	3	LR	150	5070
16 Jun	4	3	LR	150	5070
3 Jun	5	3	L	100	50120
31 May	6	3	С	100	50120
4 Jun	7	3	C	150	50120
7 Jun	3	3	C	150	5070
7 Jun	4	3	, c	150	5070
16 Jun	7	3	R	150	5070
16 Jun	8	3	R	150	5070
3 Jun	3	3	I.C	150	50120
29 Jun	11	- 3	rc	50	5070
29 Jun	7	3	ĸ	100	5070
29 Jun	8	3	LC .	100	5070
29 Jun	9	3	LC	100	5070
29 Jun	10	3	I.C	100	5070
29 Jun	1	3	LC	150	5070
5 Jun	7	3	LC	150	5070
21 Jun	7	3	LC	150	5070
29 Jun	6	3	LC	150	5070
9 Jun	5	3	RC	100	5070
9 Jun	6	3	RC	100	5070

a. Airspeed requested 160 knots.

<sup>b. 1 = Purple code material.
2 = 1 part Purple, 2 parts fuel oil.</sup>

^{3 =} Fuel oil.

c. L = Left wing tank.

C = Center tank.

R = Right wing tank. /

FIDAL Deposit from Mass Median Dismeter (MOD) of Spray

Date 1963	Flight	Liquid [®] /	Altitude, ft	Airapeed, knots	Honzle	MGD, microns
26 Hay	8	3	100	MAB/	U50120	273.3
27 Hay	1	3	150	160	U50120	No drops on cards
27 May	2	3	150	164	U50120	293.3
30 May	1	3	150	154	U50120	406.4
31 May	1	3	150	157	U50120	346.6
31 May	2	3	150	161-162	U50120	333.3
3 June	1	3	100	MA	U50120	353.3
3 June	2	3	100	KA	U50120	373.3
5 June	7	3	150	MA	U5070	233.3
5 June	8	3	150	MA.	U5070	273.3
9 June	1	3	150	155	U5070	266.7
9 June	2	3	150	150	U5070	266.7
11 June	1	3	100	150	U\$070	240
11 June	2	3	100	150	US 070	253.3
15 June	9	3	150	NA	U5070	280
15 June	10	3	150	NA.	U5070	260
16 June	9	3	150	NA.	U5070	220
16 June	10	3	150	NA	U5070	226.7
20 June	2	3	150	160	U5070	266.7
11 July	3	2	200	160	U5070	275
14 July	9	2	75	163	U5070	280
21 July	11	1	150	159	U5070	377.3
26 July	7	1	100	160	U5070	383.1
26 July	8	1	100	160	1'5070	365.9
26 July	9	1	100	160	U5070	428.8
26 July	10	1	100	160	U5070	417.4

a. 1 = Purple code material.
2 = 1 part Purple, 2 parts fuel oil.
3 = Fuel oil.

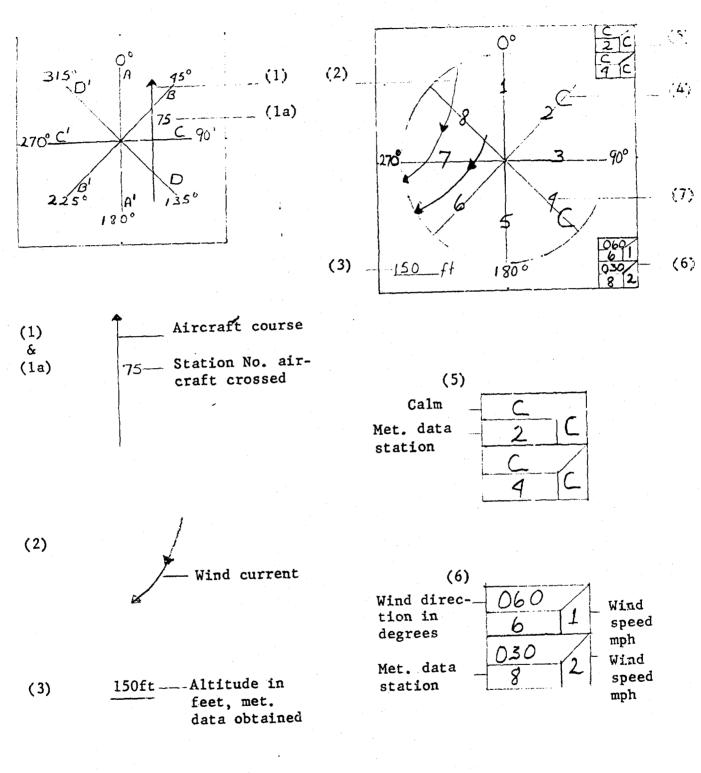
b. Not available.

APPENDIX B

BASIC DATA FROM

FIDAL TESTS, JULY 1963

SAMPLE AND EXPLANATION OF METEOROLOGICAL DATA





Sky Conditions

- 1 Cloud cover height in hundreds of feet
- 2 Cloud Amount
- 0 No clouds
- ① Fair weather cumulus
- 1 Variable sky
- 3 Second cloud cover height in hundreds of feet
- 4 Cloud Amount
- 5 Barometric Tendency / Rising
 - Steady

- 6 Overcast
- 7 Visibility in miles

Remarks

GFH - Ground Fog Heavy

N - North

OCNL - Occasional

E - East

C - Clouds

S - South

CLR - Clear

W - West

CV - Cumulus

LTG - Lightning

CB - Cumulo-nimbus

H - Haze

FQT - Frequent

S - Smoke

FIDAL FLIGHT DATA

NOZZZZ TYPU: USC120 Fuel Oil LIQUID SPRAYED: CONFIGURATION: Wing tanks only DATE FLOWN: 26 May 1963

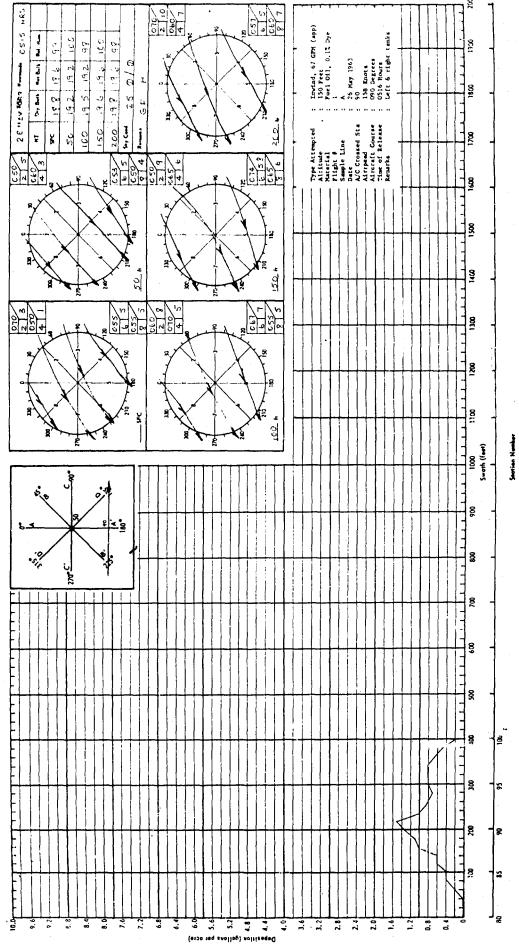
	TANK	R PM	PRESSURE PSI	FLOW RATE GPM	PEMARKS
					Tanks installed with old actuator
RUN #1	Left	1400	16.5	67	motors. Right tach. tank non-
					functional. Right pressure ques-
AIRSPEED: 158 Knots	Ctr	1	1 1		tionable.
	4 2 3		u	¢-	
TIME SPEAKEL: 5 SEC	711811				
					Left tach, was later found to be
RUN #2	Left	1460	13.5	58	halfscale.
					Unable to predict flow rate out of
AIRSPEED: 154 Knots	Ctr	1	1		right tank as only reading avail-
					able is out of calibration range.
TIME SPRAYED: 10 Sec	Right		17		e de la companya del la companya de
GENERAL REMARKS: 1.	Flane made eight passes	le eight	passes across grid.	ė.	
2.	On runs #4 both tanks s	4 both t	anks stopped temp	topped temporarily over the grid.	rid.
in .	On runs #7 and #8 right	7 and 38		tank only functioned.	

Pressure gauge, airspeed, RPM, and time sprayed readings were taken from film record of instruments in flight. NOTE:

MASS DEPOSIT

MATERIAL: Fuel	011		FLOW RA	TE: NA		
DATE: 26 Nay	1963		System:	FID	AL	
FLIGHT #: 1			AIRSPE	D: <u>15</u>	8	Knots
SAMPLE LINE:	Α		ALTITUE	B:15	0	Feet
TIME OF RELEASE:_	0516	Hours	AIRCRAI	FT COURSE:	09 0 I	egrees
DURATION:	5 Se	conds	WIND VE	CTOR:	61°/5.6 mg)h
STATION G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 82 B	lank					
					83	0.2
						0.4
					85	0.4
					86	0.6
					87	
					83	
					89	1.1
					93 91	
						1.0
					93	
						0.7
					25	0.8
					96	0.8
					97	0.8
						€.7
						0.5
					100	0.2

Total <u>13.5</u>



MASS DEPOSIT

MATERIAL: Fuel Oil	FLOW RATE:	NA	
DATE: 26 May 1963	SYSTEM: FIDA	L	
FLIGHT #: 2	AIRSPEED: 1	54	Knots
SAMPLE LINE:D	ALTITUDE:	150	Feet
TIME OF RELEASE: 0539 Hours			
DURATION: 10 Seconds	WIND VECTOR:	066 /3.0	mph
STATION G.P.A. STATION G.P.A.	STATION G.P.A.	STATION	G.P.A.
Stations 1 - 51 Blank		76	0.1
	52 0.3	11	U.L
	53 0.3	78	0.1
	54 0.2	79	
	55 0.1	80	
	56 0.2	81.	
• .	57 0.1	82	
	58 0.2	83	0.1
	59 0.1	84	0.1
	60 0.2 61 0.1	85 86	0.0
	61 0.1 62 0.2	87	1.2
	63 0.1	88	1.6
	64 0.2	89	
	65 0.1	90	
	66 0.1	91	
	67 0.1	92	1.8
	68 0.2	93	1.2
	69 0.2	94	0.8
	70 0.1	95	0.6
	71 0.2	96	0.6
	72 0.3	97	
	73 0.1	98	
	74 0.2	99	
	75 0.1	100	0.2

	8 1
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
ES 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	(a) 11: 0 (b) 11: 0 (c) 11
2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Inched, 35 GPR (app) 150 Feet 7 2 2 2 2 2 2 2 3 4 4 4 5 5 5 6 4 4 5 5 6 6 6 7 5 6 6 7 5 6 6 7 5 6 6 7 5 6 7 6 7
	130 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
9 1 9 9 9 9 9	Dourse 1700
4 -	
25 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Altitude Altitude Altitude Sample Li
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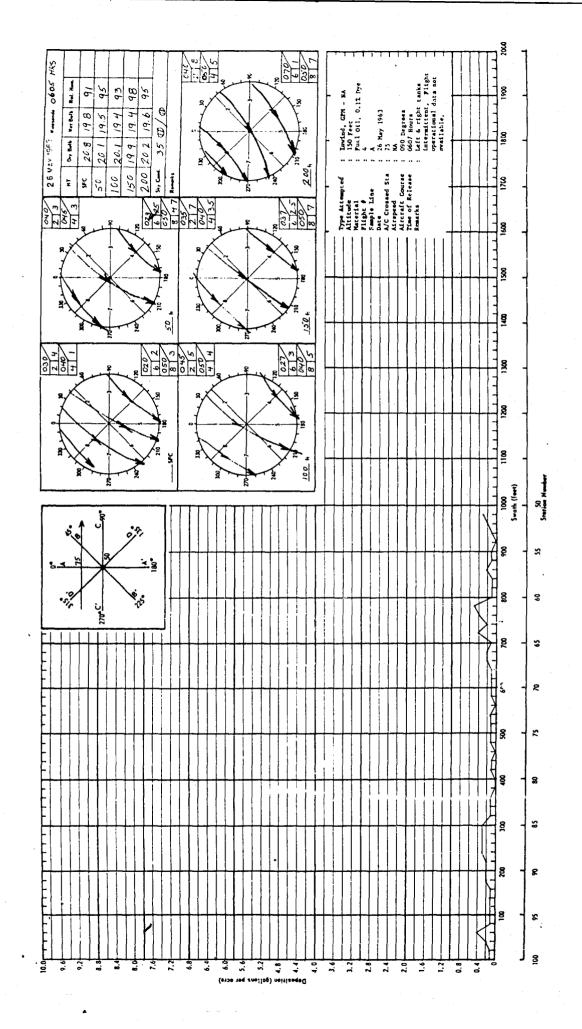
/

MATER IAL	0	Fuel Or	1			FLOW	RATE:		NA	
DATE:	26 Ma	ıy 1963				SYSTE	EM::	FIDAL		e Produce was Services & Wing, Ser
FLIGHT #	o	3				AIRSE	EED:	<u>NA</u>	·	
SAMPLE L	INE:	D				ALTII	TUDE :	150		Feet.
TIME OF	RELEASE	0542	1	lours		AIRCR	RAFT COU	RSE:	045	Degrees
DURATION	¢	NA NA				MIND	VECTOR:	06	6 [°] /3.0 π	<u>ph</u>
STATION	СРА	STAT	TON G	ΡΔ		STATION	G P A	•	STATION	C P A
STATIONS	1 - 23	Blank 2	6 1				U , L , M ,		0 TU T T O.	_ Golono
STATIONS	1 - 25		.o 1.	. <u></u>						
			18 1.							
			19 1.							
			0 1.							
			1 2.							
			2 3.							
			3 2.							
			4 1.							
			5 0.							
			6 0.							
				.6						
			8 0.							
			9 0.							
			0.0							
			1 0.							
			2 0.							
			3 0.							
			4 0.							
			.5 0							
		·	<i>.</i> 60.							
			7 0.							
			8 0.							
24	0.3	4	9 0.	.3						
25	0.9		Stations	50 -	100	Blank				

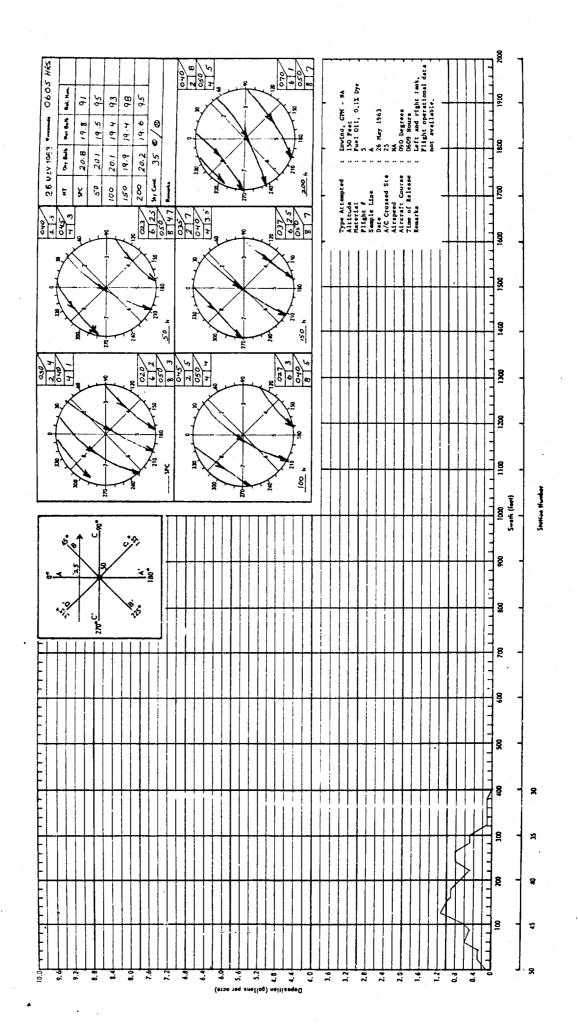
Total <u>24.4</u>

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MATERIAL: Fue	l 0il	-	FLOW	RATE: NA		
DATE: 26 Mar	7 1963		SYSTE	M: FIDA	<u> </u>	
FLIGHT #:	4		AIRSP	EED: NA		
SAMPLE LINE:	A		ALTIT	UDE:	150	Feet
TIME OF RELEASE:	0607	Hours	AIRCR	AFT COURSE:	090	Degrees
DURATION:	NA	·	WIND	VECTOR:	0420/4.0	mph
STATION G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 50 B	lank		51	0.3	76	0.1
			52	0.2	77	0.0
			53	0.1	78	0.1
			54	0.0	79	0.1
•			55	0.1	80	0.0
			56	0.1	81	0.0
			57	0.2	82	0.1
			58	0.1	83	0.1
			59	0.1	84	0.1
			60	0.1	85	0.3
			61	0.5	86	0.3
			62	0.4	87	0.3
			63	0.2	88	0.3
			64	0.4	89	0.2
			65	0.1	90	0.2
			66	0.2	91	0.2
			67	0.2	92	0.1
			68	0.1	93	0.1
			69	0.1	94	0.1
			70	0.1	95	0.1
			71	0.1	96	0.1
			72	0.0	97	0.4
			73	0.1	98	0.2
			74	0.1	99	
			75	0.1	1.00	



MATERIAL:	Fuel Oil		FLOW RATE: NA
DATE: 26	May 1963	· · · · · · · · · · · · · · · · · · ·	SYSTEM: FIDAL
FLIGHT #:	5	······································	AIRSPEED: NA
SAMPLE LINE:	<u>A</u>		ALTITUDE: 150 Feet
TIME OF RELEASE:_	060	Hours	AIRCRAFT COURSE: 090 Degrees
DURATION:	NA		WIND VECTOR: 042°/4.0 mph
STATION G.P.A.	STATION	G.P.A.	STATION G.P.A. STATION G.P.A.
	32 33 34 35 36 37 38 39 40	0.0 0.1 0.1 0.5 0.5 0.8 0.8 0.5	Stations 51 - 100 Blank
	42 43 44 45 46 47 48 49 50	0.9 1.0 1.1 0.6 0.5 0.6 0.3	



MATERIAL:	:	Fue	el Oil				FLOW	RATE:_		NA	· · · · · · · · · · · · · · · · · · ·
DATE:	26	May	1963				SYST	EM:	FID	AL	
FLIGHT #:			6	ı	· .		AIRS	PEED:	NA		
SAMPLE LI	NE:_		D	· · · · · · · · · · · · · · · · · · ·			ALTI'	TUDE:	150		Feet
TIME OF R	RELEA	SE	06	28	Hours		AIRC	RAFT CO	URSE:_	045	Degrees
DURATION:			NA				WIND	VECTOR	:0	82 ⁰ /4.8 m	nph
STATION	G.P.	Α.	S	TATION	G.P.A.		STATION	G.P.A	•	STATION	G.P.A.
Stations			Blank	17	0.0						
			1	18	0.1						
				19	0.4						
				20	0.7						
				21	1.9						
				22	0.7						
				23	0.4						
				24	0.3						
				25	0.1						
				26	0.6						-
				27	1.5						
				28	1.0						
				29	1.1						
				30	1.4					• •	
				31	0.6					* *	
					0.7						
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				36	0.1						
				Stati	ons 37	- 100	Blank				
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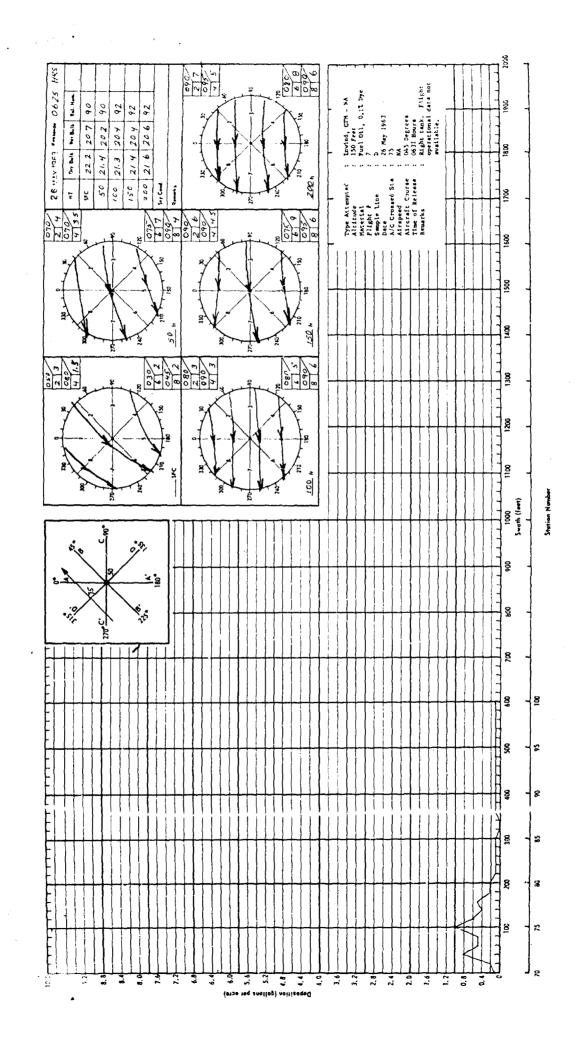
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1 超级 使机理的 超 1

MATERIAL: Fuel (Dil		FLOW	RATE: NA	A	
DATE: 26 May	1963		SYSTE	EM: FID	AL	
FLIGHT #:	7	***	AIRSI	PEED: NA		
SAMPLE LINE:	D		ALTII	TUDE: 1	50	Feet
TIME OF RELEASE:	0631	Hours	AIRCE	RAFT COURSE:	045	Degrees
DURATION:	NA		WIND	VECTOR:	082 ⁰ /4.8	mph
STATION G.P.A.	STATION	G P A	STATION	G P A	STATION	CPA
Stations 1 - 69 Bl	ank	U.I.A.	 DIMITON	U.I.A.	76	0.6
otationo i o, bi	Giin					0.4
						0.5
				•		0.2
						0.2
						0.1
					82	0.1
					83	0.1
	,				84	0.1
					85	0.1
					86	0.0
					87	0.0
					88	0.1
					89	0.1
•					90	0.1
					91	0.1
					92 93	0.1
					93	0.1
			70	0.1	95	0.1
			71	0.2	96	0.1
				0.8	97	0.1
				0.5	98	0.1
			74	0.5	99	0.1
			75	1.0	100	0.1

Total <u>6.8</u>



MASS MEDIAN DIAMETER

DATE:	26 May 1963	SPREAD PACTOR: 6.0
FLIGHT #	:8	CONVERSION FACTOR: 2.5
SAMPLE L	INE: C.	PAPER: Kromekote, white
FLOW RAT	E:NA	MATERIAL: Fuel 011
		SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
21	2	4100*			
21	4	3900			
21	5	3800			
21	1	3700			
21	3	36 00			
22	6	35 00			
22	7	34 00			
2 3	9	3200			
23	8	3100			

$$\frac{\text{MMD}}{\text{Spread Factor x Con. Factor}} = \frac{4100}{6.0 \text{x}^2.5} = 273.3 \text{ Microns}$$

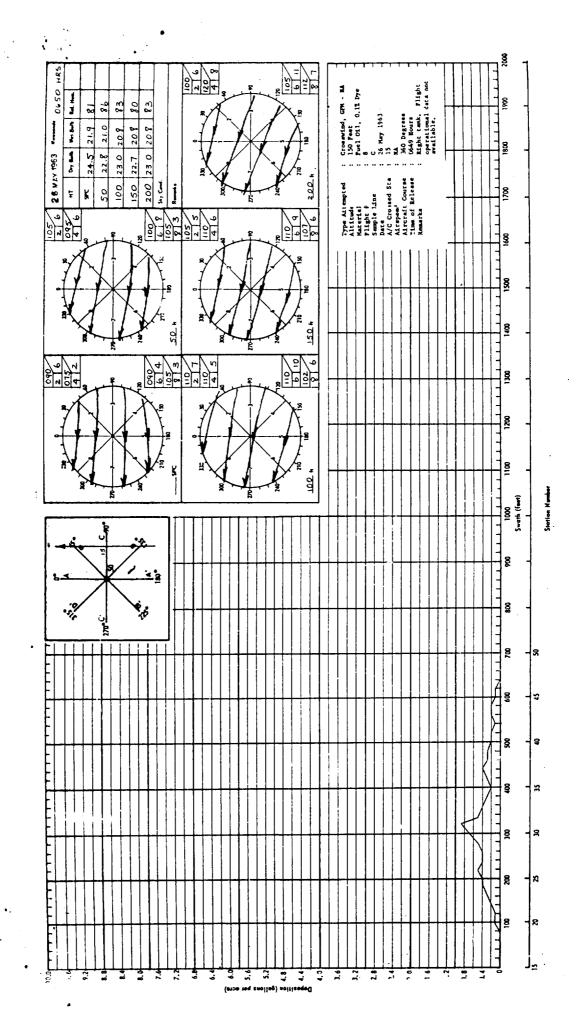
Max. Sph. Dia. =
$$\frac{4100}{6}$$
 = 683.3 Microns

Min. Sph. Dia. =
$$\frac{100}{6}$$
 = 16.7 Microns

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MATERIAL: Fuel 011			FLOW RATE: NA
DATE: 26 May 1963			SYSTEM: FIDAL
FLIGHT #: 8			AIRSPEED: NA
SAMPLE LINE: C			ALTITUDE: 100 Feet
TIME OF RELEASE: 064	9	Hours	
DUBATION: NA			WIND VECTOR: 105°/6.2 mph
STATION G.P.A.	STATION	G.P.A.	STATION G.P.A. STATION G.P.A.
Stations 1 - 19 Blank	20	0.1	45 0.1
	21	0.1	46 0.1
	22 23	0.2	Stations 47 - 100 Blank
	23	0.3	
		0.4	
	25		
	26		
	27		
	28		
	29 30	0.7	
	31	0.9	
	32		
		0.4	
		0.3	
		0.2	
		0.3	
	37	0.4	
	38	0.3	
		0.3	
		0.2	
		0.2	
		0.1	
		0.2	
		0.2	



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FIDAL PLIGHT DATA

The state of the second st

NOZZLE TYPE: US0120 LIQUID SPRAYED: Fuel 011 CONFIGURATION: Wing tanks only 27 May 1963 DATE FLOWN:

	TANK	RPM	PRESSURE PSI	FLOW RATE GPM	REMARKS
					This is only data available from
STIN S	Left	13-1400		7	photo panel.
ATRSPED: 160 Knots	CER			•	
TTME CDRAVPD: 13/4 Sa	Right	6		1	
THE STREET, I STREET					
C# NII	left	1eft 14-1500	•	2	Lack of pressure resulngs indicate no fluid was sprayed on 2 passes
2 % NOW					filmed. Based on data for 26 May
ATRSPEED: 164 Knots	Ctr			;	it is estimated both tanks were
					spraying approximately /2 Spm.
TING SPRAYED: 7.8 Sec	Right			1	
GENERAL REMARKS: 1.	Plane mad	le 10 pass	Plane made 10 passes over grid.	ane made 10 passes over grid.	

Plane made 10 passes over grid. Runs #1, 2, and 5, the right tank failed to function. On all other runs both wing tanks functioned. 3 2.

Control of the first control with the first state of the
MATERIAL: I	ruel Oil		FLOW RATE:	NA
DATE: 27 H	ıy 1963		SYSTEM: F	IDAL
FLIGHT #:	1		ALRSPRED: 16	0 Enots
SAMPLE LINE:	Α		ALTITUDE: 15	0 Feet
TIME OF RELEASE:	0456	Hours	AIRCRAFT COURSE	: 090 Degrees
DURATION:	1.75 \$	econds	WIND VECTOR:	208°/12 mph
STATION G.P.A.	STATION	G.P.A.	STATION G.P.A.	STATION G.P.A.
Stations 1 - 31			Stations 51 - 100	
	2.2	0.1		
		0.1		
	34	0.2		
		0.1 0.1		
		0.2		
	38	0.2		
	39 40	0.2		
	40	0.3 0.7		
	42	0.4		
		0.2		
		0.1		
		0.3		
		0.2		
	48	0.7		
	49 50			

2000 2000 2000 5000 5000 5000 1900 Creanizad, GFM - MA
1150 Feet.

Fuel Oll, 0.17 Dye
A
A
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A
37 Kay 1961
38
506 Exore
509 Degrees
6045 Bours
645 Bou 0455 HT Dry Balb Wer Beite Rei, ries 34 gr Des () () 4 4 4 4 4 50 209 203 15C 23 6 27 2 20O 24.0 22 6 Mr Cent. FC 204 19.7 100 23.6 21.6 18 27 MAY 1963 Antitude
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Filiph #
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Antitude
1002 1600 1700 350 220 6 5 7 4 7 4 1500 150.4 8 7 240 265 3 265 1.5 1300 200 200 Sweth (feet) # **a**ar 0,37 ઠ 8 2 230°C 8 500 600 70 **1** 2 **☆** \$ 2 0.1 4 2 9 3 2 = 3 3.6 2.8

Deposition (gallons per acre)

MASS MEDIAN DIAMETER

DATE:	27 May	1963		SPREAD FACT	TOR:	6.0
FLIGHT #:_		2	_	CONVERSION	PACTOR:	2.5
SAMPLE LIN	E:	Α		PAPER: Kroc	ekote.	white
FLOW RATE:	N	Α		HATTE IAL:_	Fuel	011
				SYSTEM:	FIDAL	

STA.	DROP #	812E	STA.	DROP #	SIZE
80	1	4400*			
81	6	4200			
80	3	4100			
80	2	4 0 00			
80	5	390 0			
80	4	3800			
81	7	3700			
81	8	3600			
82	10	3500			
81	9	3400			

 $\frac{\text{MMD} = \frac{\text{Spot D Max}}{\text{Spread Factor x Con. Factor}} = \frac{4400}{6.0 \text{x2.5}} = 293.3 \text{ Microns}$

Max. Sph. Dia. = $\frac{4400}{6.0}$ = 733.3 Microns

Min. Sph. Dia. = $\frac{100}{6.0}$ = 16.7 Microns

MATERIAL: Fuel Oil	FLOW RATE: NA
DATE: 27 May 1963	SYSTEM: FIDAL
FLIGHT 4: 2	AIRSPEED: 164 Knots
SAMPLE LINE: A	ALTITUDE: 150 Feet
TIME OF RELEASE: 0459 Hours	AIRCRAFT COURSE: 090 Degrees
DURATION: 7.8 Seconds	WIND VECTOR: 208 /1,2 mph
STATION G.P.A. STATION G.P.A.	STATION G.P.A. STATION G.P.A.
Stations 1 - 67 Blank	76 0.2 77 0.2 78 0.5 79 0.5 80 0.5 81 0.9 82 0.7 83 0.9 84 0.9 85 0.9 86 0.8 87 0.9 88 0.6 89 0.6 90 0.6 91 0.5 92 0.4 68 0.4 93 0.3 70 0.7 95 0.3 71 0.3 96 0.3 72 0.5 97 0.3 73 0.2 98 0.3 74 0.3 99 0.4 75 0.2 100 0.7

t & &	0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	, , , , , , , , , , , , , , , , , , ,	
20.3 94 20.2 99 22.2 99 22.6 004	alida[3]	8 8 8	Crossrind, GPH - KA 150 Feet 2 2 3 37 Hary 1963 85 85 85 85 85 85 85 85 85 85 85 85 85	
27 W.V. 1213 WC 264 SC 269 160 236 150 236 200 240 W. Cone.	Herein Base Herein Here	75. H. 202. H. 200. H.		
0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	100 H 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	8 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Type Attempted Alittude Alittude Sample Line Date Alitapee	
7	g g	2 2		
3 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	20 m m	18 240 240 2 6 0.3 2 245 3 150 4	871 (82)	
m 1 0 + 2 2 m m	300 214 214	8 4 4 4 4	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
R E	N N N N N N N N N N N N N N N N N N N	2001	8	į
* J				Station Number
			008	
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			\$	62
			800	80 75
			## A	£
			2 -	8
			8	\$6 001
	<u> </u>			₽.

MATER IAL		Fuel Oil		FLOW RATE: NA
DATE :		27 May 1963		SYSTEM: FIDAL
FLIGHT #	<u> </u>	3		AIRSPEED: NA
SAMPLE L	INE:	С		ALTITUDE: 150 Feet
TIME OF	RELEASE	: 0516	Hours	AIRCRAFT COURSE: 360 Degrees
DURATION	·	NA		WIND VECTOR: 129º/2.2 mph
STATION	G.P.A.	STATION	G.P.A.	STATION G.P.A. STATION G.P.A.
Stations	1 - 22	Blank 26	1.3	Stations 51 - 100 Blank
		27	1.4	
		28	1.8	
		2 9	2.4	
		30	2.0	
		31	2.8	
		32	3.6	
		33	2.5	
		34	2.5	
		35	2.1	
		36	1.3	
		37	0.8	
		38	8.0	
		39	0.7	
		40	0.8	
		41 42	0.6 0.5	
		43	0.5	
		44	0.4	
		45	0.5	
		46	0.3	
		47	0.3	
23	0.0	48	0.5	
- 24	0.4	49	0.4	
25	0.8	50	0.0	

既 17.88 7 2 3 2 150 11 5 22.0 200 242 22.5 8 105 A.1 72.7 27 Mary 1861 4.12 4.14 DOI 12 100 1 9 K 下 那 F ġ 140 . • 707 * -* 2 ÷ Ţ 7 7 7.0

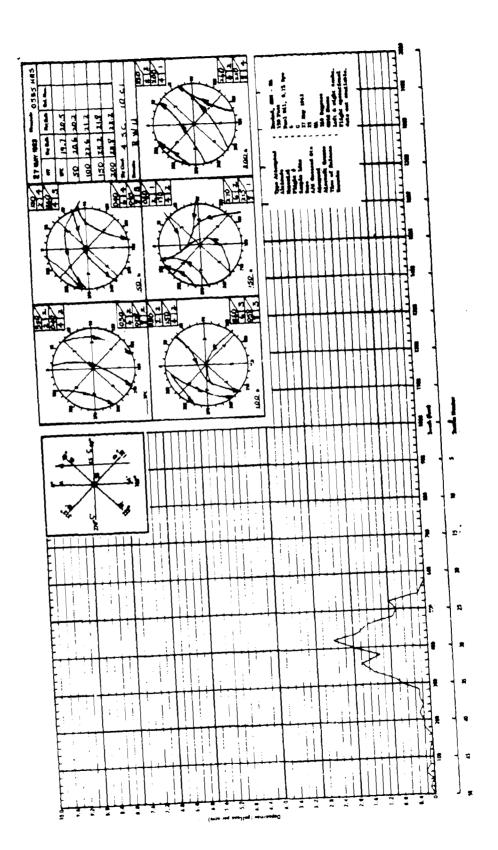
DATE: 27 May 1963 SYSTEM: FIDAL FLIGHT #: 4 AIRSPEED: NA SAMPLE LINE: C ALTITUDE: 150 Fee	
SAMPLE LINE: C ALTITUDE: 150 Fee	
TIME OF RELEASE: 0521 Hour AIRCRAFT COURSE: 360 Degree	
DUBATION: KA WIND VECTOR: 129°/2.2 mph	_
STATION G.P.A. STATION G.P.A. STATION G.P.A. STATION G.P.A	٠.ـ
Stations 1 - 50 Blank 51 0.0 Stations 76 -	100
52 0.1	ank
52 0.1 - 31 53 0.0 54 0.0	
55 0.1	
56 0.0	
57 0.0	
58 0.0	
59 0.0 60 0.2	
60 0,2	
61 0.0	
62 0.0	
63 0.0 44 0.0	
65 0.0	
68 0.0	
69 0.0	
70 0.0	
71 0.0	
72 0.0 73 0.0	
73 0.0	
75 0.0	

020 27 MAN 1952 "manus 05.17 HRS 3.40 H 1	Type Attempted : Izwfad, GPH - MA. Altitude : 150 Feet Marcelai
1000 1000	1200 1300 1400 1300
	800 900 1100 1100 1100 Seath (See)
	80, 00, 00, 00, 00, 00, 00, 00, 00, 00,
100 100 100 100 100 100 100 100	3.2 2.8 2.0 2.0 1.6 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6

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MATERIAL: Fuel 011	FLOW RATE:	MA
DATE: 27 May 1963	SYSTEM: FID	AL
7LIGHT #:5	AIRSPEED:	HA
SAMPLE LIME:C	ALTITUDE:	150 Feet
TIME OF RELEASE: 0536 Hours	AIRCRAFT COUR	SE: 360 Degrees
DURATION: NA	WIND VECTOR:	157°/1.3 mph
STATION G.P.A. STATION G.P.A. Stations 1 - 50 Blank	STATION G.P.A.	STATION G.P.A.
	51 0.1 52 0.1 53 0.1 54 0.1 55 0.1 56 0.1 57 0.1 58 0.1 59 0.1 60 0.1 61 0.1 62 0.1 63 0.1 64 0.1 65 0.1 66 0.1 67 0.1 68 0.1 69 0.1 70 0.1	76 0.1 77 0.1 78 0.1 79 0.1 80 0.1 81 0.1 82 0.3 83 0.4 84 0.6 85 1.0 86 0.4 87 0.7 88 0.5 89 0.4 90 0.3 91 0.3 91 0.3 92 0.2 93 0.6 94 0.4 95 0.1 96 0.1
	72 0.1 73 0.1 74 0.1 75 0.1	97 0.1 98 0.3 99 0.2 100 0.5

MATERIAL:	Fuel Oil		FLOW RATE: NA
DATE: 27 May	1963		SYSTEM: FIDAL
FLIGHT #:	6		AIRSPEED: NA
SAMPLE LINE:	С		ALTITUDE: 150 Feet
TIME OF RELEASE:	0540	Hours	AIRCRAFT COURSE: 360 Degrees
DURATION:	NA		WIND VECTOR: 157°/1.3 mph
STATION G.P.A.	STATION	G.P.A.	STATION G,P.A, STATION G,P,A.
21 0.0 22 0.1 23 0.2 24 1.0 25 0.8	27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 7	1.6 1.9 2.5 2.0 1.3 1.8 1.5 0.9 0.7 0.3 0.2 0.3 0.2 0.0 0.0 0.0 0.1 0.1 0.2	Stations 51 - 100 Blank



MATERIAL: Fuel Oil			FLOW RATE:	NA	
DATE: 27 May 1963			System:	FIDAL	
FLIGHT #:	FLIGHT #: 7		AIRSPEED: NA		
SAMPLE LINE:	D		ALTITUDE:	100	Peat
TIME OF RELEASE:	0556	Hours	AIRCEAFT COURSE	. 045	Degrees
DURATION:	NA NA		WIND VECTOR:	108°/1,4 =	<u>h</u>
STATION G.P.A.	STATION	G.P.A.	STATION G.P.A.	STATION	G.P.A.
21 0.0 22 1.1 23 1.3 24 0.9 25 0.8	Blank 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	1.7 3.4 3.2 1.6 0.7 0.7 0.6 0.3 0.4 0.1 0.1 0.1 0.1 0.0 0.0 0.1 0.1			

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MATERIAL: Fuel 011	TLON	RATE:	XA.	
DATE: 27 May 1963	SYST	D(: <u>F</u>)	DAL	
FLIGHT #: 8	AIRS	PEED:	ra	
SAMPLE LINE: D	ALTI	TUDE: 100		Jeet
TIME OF RELEASE: 0601 Hours	AIRC	BAFT COUR	EE: <u>045</u>	Degrees
DURATION: NA	WIND	VECTOR:_	108°/1.4 m	ph
STATION G.P.A. STATION G.P.A.				
Stations 1 - 50 Blank	51	0.0	76	0.6
	52	0.0	77	0.8
	53	0.0	78	2.2
	54	0.0	79	2.2
	55	0.0	80	
	_	0.0	81	
		0.0	82	0.7
	58 59	0.0 0.2	83 84 .	0.3 0.0
	60	0.2	85	
		0.0	86	0.0
		0.1	87	0.0
		0.0		0.0
	64	0.0	89	0.0
	65	0.0	90	0.0
	66	0.0	91	0.0
		0.0	92	0.0
		0.0	93	
		0.0		0.0
		0.1	95	0.2
	71	0.0	96	0.0
	72	0.0	97	0.0
	73		98	0.0
	74	1.0	99	
		1.0		0.1

HATERIAL:	Fuel Oil		FLOW RATE: NA
DATE: 27 Ma	y 1963		SYSTEM: FIDAL
FLIGHT #:	9		AIRSPEED: NA
SAMPLE LINE:	Α		ALTITUDE: 100 Feet
THE OF RELEASE	:0616	Rours	AIRCRAFT COURSE: 090 Degrees
DURATION:	NA NA		WIND VECTOR: 98°/0.5 mph
STATION G.F.A.	STAT <u>1</u>	ON G.P.A.	STATION G.P.A. STATION G.P.A.
Stations 1 - 24	27 28 29 30 32 33 34 35 36 40 44 44 44 44 44 44 44 44 44 44 44 44	0.7 1.2 1.9 1.5 1.0 1.6 1.6 1.3 0.8 0.2 0.6 0.2 0.4 0.4 0.4 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3	Station 51 - 100 Blank

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HATERIAL:	Fuel Oil	PLOW :	RATE: N	<u> </u>	
DATE: 27 May	SYSTE	M: <u>F</u>	DAL		
FLIGHT #:	10	AIRSP	5E 0:	LA	
SAMPLE LINE:	<u>A</u>	ALTIT	100		<u> Paet</u>
TIME OF RELEASE:	0619 Hours	AIRCE	LAFT COURSE	090	Degrees
DURATION: NA		AIMD	VECTOR:	98°/9.5 =0	<u> </u>
STATION G.P.A.	STATION G.P.A.	STATION	G.P.A.	STATION	
Stations 1 - 50	Blank	51	0.2	76	0.1
		52	0.2 0.3	77	0.7
		53	0.3	78 70	4.0
			0.1	79 80	
			0.1 0.1	81	
			0.1	82	
			0.1	83	1.5
		59	0.1	84	0.8
		60	0.1	85	0.6
			0.1	86	
			0.1	87	0.2
		63	0.1	88	
		64	0.1	89	0.2
		65	0.1	90	0,2
		66	0.1	3.1	0,2
		67	0.1		0.2
			0.1		0.2
			0.1		0.2 0.2
			0.1	95 96	
			0.1 0.1		0.2 0.2
				98	
		73 74	0.1 0.1	99	-
		•	0.1	100	
		75	V.1	100	· · •

Total 23.9

100 242 220 82 15 15 200 244 224 81 81 81 81 81 81 81 81 81 81 81 81 81		The state of the s	
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PIDAL PLICHT DATA

COMPIGURATION: Wing tanks only DATE FLOWN: 30 May 1963

LIQUID SPRAYED: Fuel 041

NOZZLE TYPE: U50120

	TANK	RTK .	PRESSURE PSI	TANK RPM . PRESSURE PSI FLOW RATE CPM REDIMERS	REDIANCS
					Technology on which tonk and
RUN #1	Left 1600	1600	-	927	al. Presente recorder on left tent
149 to					non-functional
AIRSPEED: 152 Knots	Ctr	1200	:	•	
TIME SPRAYED:	Right	-	20	75	
1 .5.	P. D	14	100 Called or Case	On Bun 41 she blades feel 4 see see - see	

1. On Run #1 the blades failed to feather from the power position.
2. Old actuator motors were still in use.

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MASS MEDIAN DIAMETER

DATE: 30 May 1963	SPREAD FACTOR: 6.0
PLIGHT #: 1	CONVERSION FACTOR: 2.5
SAMPLE LINE: A	PAPER: Kromekote, white
FLOW RATE: NA	MATERIAL: Fuel 011
	SYSTEM: FIDAL

$$\frac{\text{MMD} = \frac{\text{Spot D Max}}{\text{Spread Factor x Con. Factor}} = \frac{6100}{6.0 \times 2.5} = 406.4 \text{ Microns}$$

Max. Sph. Dia. =
$$\frac{6100}{6.0}$$
 = 1016 Microns

Min. Sph. Dis. =
$$\frac{100}{6.0}$$
 = 16.7 Microns

FIDAL FLIGHT DATA

LIQUID SPRAYED: Fuel Dil CONFIGURATION: All tanks DATE FLOWN: 31 May 1963

NOZZLE TYPE: U50120

REMARKS	Old actuator motor on center tank. Pump wouldn't prime with 100-150	gallong remaining in the tank. Center pressure gage out.	Right tach, out. Left pressure gage out.						*Film ran out after 5 seconds.
FLOW RATE GPM	7.5	арргох 30	40	approx 75	" 30	40	approx 75	" 30	40
PRESSURE PSI	0		11-12	0	-	13	0	•	13
RPM	1400	1000	peg	1400+	1000	peg	1400	1000	peg
TANK	Left	Ctr	Right	Left	Ctr	Right	Left	Ctr	Right
	€ NI &	ATRSPEED: 157 Knots	TIME SPRAYED: 8 Sec	1	AIRSPEED: 162-161 Knot	TIME SPRAYED: 9 Sec	RIIN #3	AIRSPEED: 163 Knots	TIME SPRAYED: 5 Sec*

GENERAL REMARKS: 1. Six passes flown today.
2. On last run the right and left tanks failed to prime and center tank only sprayed.

MASS MEDIAN DIAMETER

DATE: 31 May 1963	SPREAD FACTOR: 6.0
FLIGHT #: 1	CONVERSION FACTOR: 2.5
SAMPLE LINE: A	PAPER: Kromekote, white
FLOW RATE: 145 (app)GPM	MATERIAL: Fuel 011
	SYSTEM: FIDAL

STA,	DROP #	SIZE	STA.	DROP #	SIZE
70	1	7300	70	6	4400
68	2	6200	70	7	4300
69	3	5600	71	8	4200
71	9	5200*	71	13	4100
71	10	5100			
71	12	5000			
74	11	4800			
70	4	4600			
70	5	4500			

 $\frac{\text{MHD} = \text{Spot D Max}}{\text{Spread Factor x Con. Factor}} = \frac{5200}{6.0 \times 2.5} = 346.6 \text{ Microns}$

Max. Sph. Dia. = $\frac{7300}{6}$ = 1216.6 Microns

Min. Sph. Dia. = $\frac{100}{6}$ = 16.7 Microns

MATERIAL: Fuel Oil	FLOW RAT	TE: 14	5 (app)	GPH
DATE: 31 May 1963	SYSTEM:	FIDAL		
FLIGHT #:1	AIRSPEE	D: 157		Knots
SAMPLE LINE: A	ALTITUD	E: 150		Feet
TIME OF RELEASE: 0504 Hours	AIRCRAF	T COURSE:	090	Degrees
DURATION: 8 Seconds	WIND VE	CTOR: 003	°/7.6 m p	h
STATION G.P.A. STATION G.P.A.	STATION G	.P.A.	STATION	G.P.A.
Stations 1 - 50 Blank	51 1	0	76	1.3
	52 0 53 0	1.7	77	1.4
	53 0	3,6	78	1.4
	54 0		79	1.3
	55 0		80	
	56		81	
	57		82	
	58 0		83 84	
	59 (0.2	85	1.8 1.9
	61 (86	1.4
	62		87	
	63		88	
	64		89	
	-	0.4	90	
		0.2	91	
	67	0.2	92	
	68	0.2	93	0.7
	69	0.4	94	0.5
	7 0	0.4	95	0.4
	71	0.5	96	0.3
	72		97	0.4
	73		98	0.3 .
	74		99	
	75	1.7	100	3.2

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100 111 112 100 101	Comment, 10 mm (eq.) 1 mm (eq
	3
	007

MASS MEDIAN DIAMETER

DATE: 31 May 1963 SPREAD FACTOR: 6.0

FLIGHT #: 2 CONVERSION FACTOR: 2.5

SAMPLE LINE: A PAPER: Kromekote, white

FLOW RATE: 145 (app)GPM MATERIAL: Fuel Oil

SYSTEM: FIDAL

STA.	DROP #	SIZE	STA,	DROP #	SIZE
<u>STA.</u> 29	1	6300	30	8	4300
29	2	5300	27	11	4200
29	3	5000*	29	12	4100
28	6	4900			
28	7	4800			
29	4	4700			
30	9	4600			
30	10	4500			
29	5	4400			

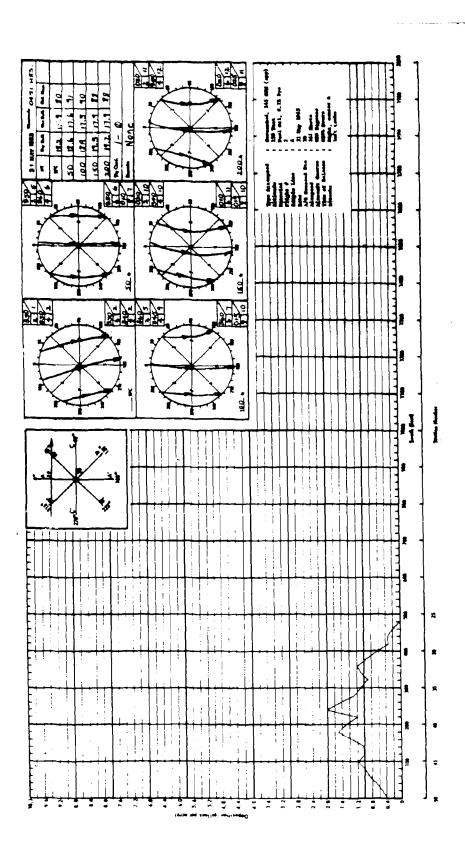
 $\frac{\text{MMD} = \frac{\text{Spot D Max}}{\text{Spread Factor x Con. Factor}} = \frac{5000}{6.0 \times 2.5} = 333.3 \text{ Microns}$

Max. Sph. Dia. = $\frac{6300}{6.0}$ = 1050 Microns

Min. Sph. Dia. = $\frac{100}{6.0}$ = 16.7 Microns

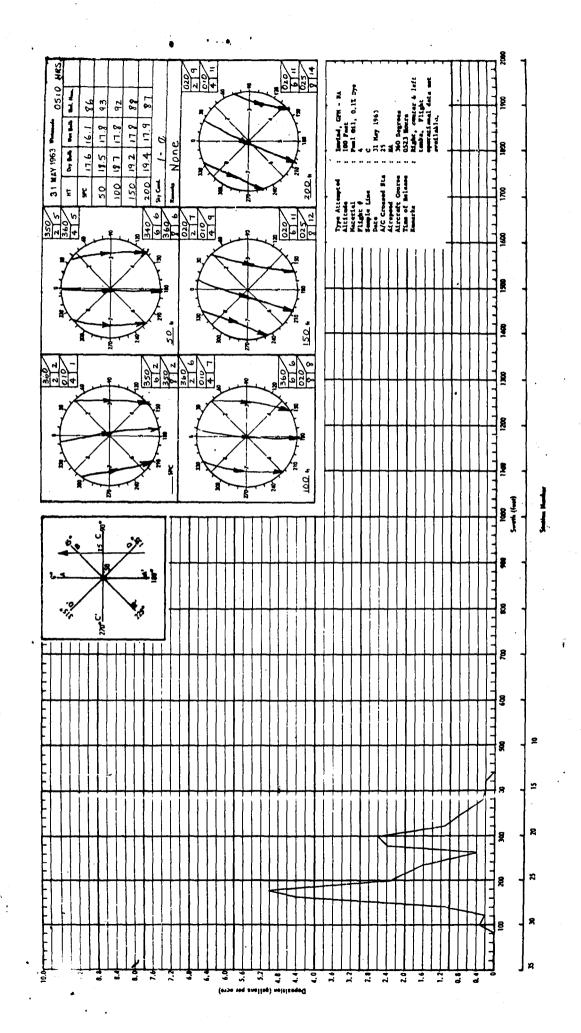
MATERIAL: F	uel Oil		FLOW RATE: 145 (app) GPM
DATE: 31 May	1963		SYSTEM: FIDAL
FLIGHT #:	2		AIRSPEED: 161-162 Knots
SAMPLE LINE:	Α		ALTITUDE: 150 Feet
TIME OF RELEASE:	0502_	Bours	AIRCRAFT COURSE: 090 Degree
DURATION:	9 <u>s</u>	econde	WIND VECTOR: 003°/7.6 mph
STATION G.P.A.	STATION	G,P,A,	STATION G.P.A. STATION G.P.A. Stations 51 - 100 Blank
	28 29 30 31 32 33 34 35 36 37 28 39 40 41 42 43 44 45 46 47 48 49	0.3 0.6 0.9 1.2 1.1	

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MATERIAL: Fuel Oil	FLOW I	RATE:	<u>KA</u>		
DATE: 31 May 1963	System	M:	FIDAL		
FLIGHT #:3	AIRSP	55D:	RA	NA.	
SAMPLE LIME:C	ALTIT	ALTITUDE: 100) Feet	
TIME OF RELEASE: 0521 Hours	AIRCR	AFT COURSE	1: <u>360</u>	Degrees	
DURATION: NA	WIND	VECTOR:	012°/7.0 =	ph	
STATION G.P.A. STATION G.P.A. Stations 1 - 50 Blank	STATION	G.P.A.	STATION	G.P.A.	
Stations 1 - 50 Blank	51	0.7	76	2.0	
	52	0.7	77	3.5	
		0.3	78		
		0.1	79	0.2	
	55		80	0.3	
	56	0.2	81 82	0.1	
	57	0.0	82 83	0,2	
		0.2	84	0.1	
		0.1 0.2		ions 85 · 9 Blank	
	62	0.2	14.	Dienk	
	63	0.3			
	64	0.2 0.4			
	65	0.6			
		0.8			
		0.9			
		0.9			
	69	0.8			
	70	0.8 0.9			
	71	3.5			
	72	2.5			
	73	1.8			
	74	1.7			
	7.5	1.8			

MATERIAL: Fuel	011		FLOW RATE:	NA	
DATE: 31 May 1963			SYSTEM:	FIDAL	
FLIGHT #: 4			AIRSPRED:	NA.	
SAMPLE LIM:	С		ALTITUDE:	.90	Peet
TIME OF RELEASE:	0523	Hours	AIRGRAFT COURS	1: <u>360</u>	Degrees
DURATION: NA			WIND VECTOR:	912°/7.9	2°/7.0 mph
STATION G.P.A.	STATION	G.P.A.	STATION G.P.A.	STATION	G.P.A.
Stations 1 - 12 BL	14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29	0.2 0.2 0.3 0.6 0.8 1.1 2.6 2.4 0.4			



MATERIAL: Fuel Oil	FLOW RATE:	NA
DATE: 31 May 1963	SYSTEM:	PIDAL
FLIGHT #:5	AIRSPEED:	NA
SAMPLE LINE:C	ALTITUDE: 1	90 Feet
TIME OF RELEASE: 0539 Hours	AIRCRAFT COURSE	: 360 Degrees
DURATION: NA	WIND VECTOR:	010°/7.7 =oh
STATION G.P.A. STATION G.P.A.	STATION G,P,A,	STATION G.P.A.
	52 0.1 53 0.1 54 0.1 55 0.2 56 0.1	77 1.7 78 0.0 79 0.0 80 0.0 81 0.0
	57 0.1 58 0.1 59 0.1 60 0.2 61 0.2	82 0.0 83 0.0 84 0.0 85 0.0 86 0.0
	62 0.2 63 0.1	87 Q.0 88 Q.0 Stations 89 - 100 Blank
	72 0.5 73 1.6 74 2.5 75 2.3	

秀 162 AA 8 BA 160 AA 160 3250 1 8 . 4 ġ 1 * . . 3 R ų Į ĸ 2 1 2 į * * * 3 3

and the shall said and an include and

MATERIAL:	Fuel Oi	1		FLOW RATE: NA NA	
DATE:3	1 May 196	53		SYSTEM: FIDAL	
FLIGHT #:	6			A IRSPEED: NA	
SAMPLE LINE:	С			ALTITUDE: 100	Feet
TIME OF RELEAS	SE: 054	41	Hours	AIRCRAFT COURSE: 360 Des	Tees
DURATION:	<u>KA</u>			WIND VECTOR: 0100/7,7	φħ
STATION G.P.	A, S	TATION	G.P.A	STATION G.P.A. STATION G.	P.A.
18 0 19 0 20 0 21 0 22 0 23 0 24 0	.0 .0 .1 .3	27 82 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	0.6 0.3 0.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Stations 51 - 100 Blank	

PIDAL PLICHT DATA

LIQUID SPRAYED: Fuel 041 CONFIGURATION: All tenks DATE FLOWN: 3 June 1963

MOZZLE TYPE: U50120

	TANK	REA	I RPM PRESSURE PSI FLOW RATE GPM	I PLOW BATE GPM	PERMERS
					Right tach. still out of order, left
BIIN	Left	1600	,	approx 90	and center tachs, reading approx.
					half scale.
ATRSPEED:	Ctr	1600	-	o6	Again the film in main photo panel
					camera was unemposed and limited
TIME SPRAYED: 8 Sec	Right			۰. 30	data was obtained.
=					Indicated flowmeter readings are
					estimated from tachometer data and
RUN #2	Left	1700		approx 100	results of subsequent runs at the
					same pitch setting.
AIRSPEED:	Ctr	1700		001	
TIME SPRAYED: 12 Sec	Right	-	-	100	

GENERAL REMARKS:

Plane made 5 spray passes over grid.
Right tanks failed to spray on all tries.
On 2nd & 3rd runs the center tank delayed before spraying.
On 4th run center tank cut out early.
On 5th run left tank only sprayed after a 5-6 second delay.

MASS MEDIAN DIAMETER

DATE: 3 June 1963

SPREAD FACTOR: 6.0

FLIGHT #: 1

CONVERSION FACTOR: 2.5

SAMPLE LINE:B

PAPER: Kromekote, white

FLOW RATE: 270 (app) GPM

MATERIAL: Fuel 011

SYSTEM: FIDAL

STA,_	DROP #	SIZE	STA,	DROP #	SIZE
64	1	7400	64	10	4900
64	2	6300	64	12	4800
64	3	6100	64	9	4700
64	5	5700	64	13	4600
64	4	5600	64	14	4500
64	7	5300*			
64	6	5200			
64	8	5100			
64	11	5000			

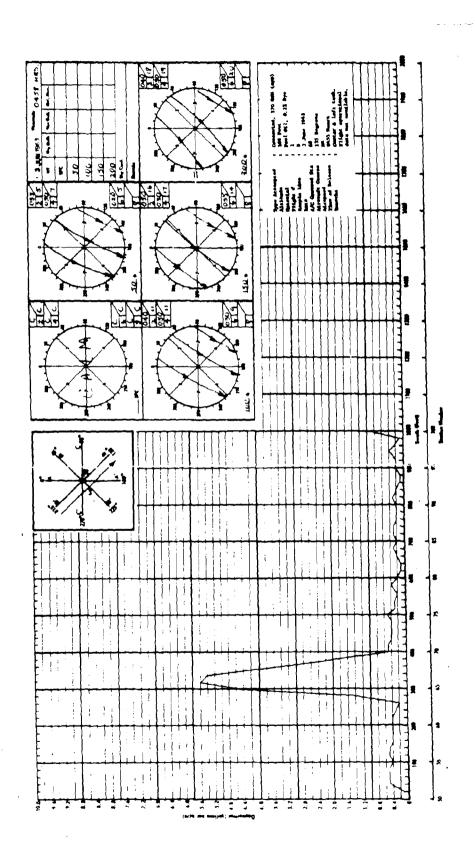
MMD = Spet D Max = 5300 = 353.3 Microns
Spread Factor x Con. Factor 6.0x2.5

Max. Sph. Dia. = $\frac{7400}{6.0}$ = 1233.3 Microns

Min. Sph. Dia: = $\frac{100}{6.0}$ - 16.7 Microns

MATERIAL: Fuel 011	FLOW RATE:2	70 (app)	ĮΉ
DATE: 3 June 1963	SYSTEM: FIDA	L	
FLIGHT #: 1	AIRSPEED:	NA	
SAMPLE LIME: B	ALTITUDE:	.00 P e	et
TIME OF RELEASE: 0455 Hours	AIRCRAFT COURSI	: 135 Degre	8 8
DURATION: 8 Seconds	WIND VECTOR:	036°/12.2 mph	
STATION G.P.A. STATION G.P.A.	STATION G.P.A.	STATION G.P.	١.
Stations 1 - 50 Blank	51 0.2	76 0.3	
	52 0.5 53 0.5	77 0.3	
	53 0.5 54 0.5	78 0.2 79 0.4	
	55 0.4	80 0.2	
	56 0.5	81 0.1	
	57 0.5	82 0.2	
	58 0.4	83 0.2	
	59 0.4	84 0.3	
	60 0.4	85 - 0.2	
	61 0.4	86 0.3	
	62 0.3	87 0.3	
	63 0.2 64 1.5	88 0.2 89 0.2	
	65 4.5	90 0.2	
	66 5.6	91 0.3	
	67 5.4	92 0.2	
	68 3.2	93 0.1	
	69 1.8	94 0.1	
	70 0.5	95 0.2	
	71 0.5	96 0.2	
	72 0.4	97 0.4	
	73 0.4	98 0.2	
	74 0.4	99 0.1	
	75 0.5	100 0.9	

Total 36.7



HASS MEDIAN DIAMETER

DATE: 3 June 1963	SPREAD PACTOR: 6.0
FLIGHT #: 2	CONVERSION FACTOR: 2.5
SAMPLE LINE: B	PAPER: Kromekote, white
FLOW RATE: 300 (app) GPM	MATERIAL: Fuel Oil
	SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZZ
24	<u> </u>	5900			
25	4	5600*			
25	2	5500			
25	3	5400			
25	5	5300			
25	6	5100			
25	7	5000			
25	8	4900			
25	11	4800			
25	9	4600			
25	10	4500			

 $\frac{\text{MMD} = \frac{\text{Spot D Max}}{\text{Spread Factor x Con. Factor}} = \frac{5600}{6.0 \text{x2.5}} = 373.3 \text{ Microns}$

Max. Sph. Dia. = $\frac{5900}{6.0}$ = 983.3 Microns

Min. Sph. Dia. = $\frac{100}{6.0}$ = 16.7 Microns

HATERIAL:	Pue	l Oil			FLOW RATE: 300 (app) GPM
DATE:	3 Ju	ne 19	53		SYSTEM: FIDAL	
FLIGHT #:		2			AIRSPEED: NA	
SAMPLE LI	NB:	В			ALTITUDE: 100	Peet
TIME OF R	ELEASE	·	0457	Hours	AIRCRAFT COURSE: 135	Degrees
DURATION:		12	Se	conds	WIND VECTOR: 036 /12.2	mph .
STATION	G.P.A.		STATION	G,P,A,	STATION G.P.A. STATION Stations 51 - 100 Blank	i G.P.A.
Stations			28 29 30 31 32	2.6 2.4 1.4 1.8 2.2		
			33 34 35 36 37 38	2.4 2.1 2.5 2.2		
			39 40 41 42 43 44 45	0.6		
	0.2 0.5			0.2		

Total 31.7

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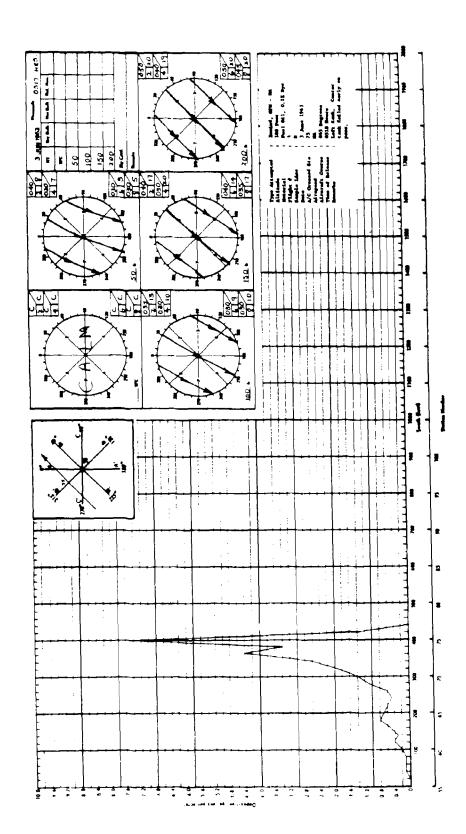
MATERIAL: Fuel 011	FLOW RATE: 145 (app) GPM
DATE: 3 June 1963	SYSTEM: FIDAL
FLIGHT #: 3	AIRSPEED: 163 Knots
SAMPLE LINE: D	ALTITUDE: 150 Feet
TIME OF RELEASE: 0516 Hours	AIRCRAFT COURSE: Q45 Degrees
DURATION: NA	WIND VECTOR: 038°/13.2 mph
STATION G.P.A. STATION G.P.A.	STATION G.P.A. STATION G.P.A.
Stations 1 - 7 Blank Stations 26 - 10	00 Blank
8 0.0 9 0.0	
10 0.1	
11 0.2	
12 0.3	
13 0.4 14 0.7	
15 1.0	
16 1.3	
17 12.5	
18 2.0	
19 2.4	
20 2.3	
21 2.2	
22 2.8 23 2.5	
24 2.9	
25 1.1	

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MATERIAL:	Fuel Oil	FLOW RATE:	KA
DATE:	3 June 1963	SYSTEM:	IDAL
PLIGHT #:	4	AIRSPEED:	NA
SAMPLE LIME:	D	ALTITUDE:	100 Feet
TIME OF RELEASE:	0518 Hours	AIRCRAFT COURS	SE: 045 Degrees
DURATION:	<u>KA</u>	WIND VECTOR:	038 /13.2 mph
STATION G.P.A.	STATION G.P.A.	STATION G.P.A.	STATION G.P.A.
Stations 1 - 50	Blank	51 0.0	76 1.3
		51 0.0 52 0.0 53 0.0	77 0.0
		54 0.0	Stations 78 -109 Blank
		55 0.0	DIEUR
		56 0.0	
		57 0.1	
		58 0.1	
		59 0.1	
		60 0.2	
		61 0.4	
		62 0.3	
		63 0.5	
		64 0.8	
		65 0.7 66 0.6	
		67 0.5	
		68 0.6	
		69 1.1	
		70 1.4	•
		71 1.8	
		72 2.6	
		73 4.4	
		74 3.4	
		75 7.2	



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MATERIAL: Tue	1 011	FLOW BATE:	:	
DATE: 3 Ju	me 1963	SYSTEM:	FIDAL	
PLIGHT #: 5		AIRSPEED:	NA	
SAMPLE LINE:	D	ALTITUDE:	100	Teet
TIME OF RELEASE:	0538 Hours	AIRCRAFT	COURSE: 045	Degrees
AM: HOITARUD		WIND VECT	OR: 036°/12.4	¥ m ph
STATION G.P.A.	STATION G.P.A.	STATION G.P	A. STATIO	N G.P.A.
	26 0.2 Stations 27 - 10			

material:	Fuel Oil	FLOW RATE:	NA .
DATE: 3 J	une 1963	SYSTEM: P	IDAL
FLIGHT #:	6	AIRSPEED:	NA NA
SAMPLE LINE:_	D	ALTITUDE:	100 Feet
TIME OF RELEAS	SE: 0545 Hours	AIRCRAFT COUR	SE: 045 Degrees
DURATION:	<u>NA</u>	WIND VECTOR:_	036°/12.4 mph
STATION G.P.	A. STATION G.P.A.	STATION G.P.A.	STATION G.P.A.
Stations 1 -		72 0.1	
		73 0.1 74 0.0	
		74 0.0 75 0.1	
		76 0.0	
		77 0.0	
		Stations 78 -	100 Blank

FIDAL FLIGHT DATA

NOZZLE TYPE: US0120 LIQUID SPRAYED: Fuel 011 4 June 1963 CONFIGURATION: All tanks DATE FLOWN:

	TANK	RPM	PRESSURE PSI	FLOW RATE CPM	KEMAKES
i de Mila	left	1500		approx 80	Leit pressure gage round unacounted. Center pressure gage non-
	,	1600		06 "	functional. Right tach. non-functional.
AIRSPEED: 150 Knots	117	7007			Left and center tachs, read half
TIME SPRAYED: 9.2 Sec	Right	beg	19.5-20	73	scale. Flow rate represents best
					estimate using twice the recoluen
BUN #2	Left	1500	•	approx 80	
Knot8	Ctr	1600		06 "	
TIME SPRAYED: 9-0 Sec	Right	peg	21	75	
יייייייייייייייייייייייייייייייייייייי					
RUN #3	Left	1600		approx 90	
AIRSPEED: 158 Knots	Ctr	1600	1	06 "	
0. 11 O Sec	Right	рек	21	75	
GENERAL REMARKS: 1. P	lane mad	e eight her runs	Plane made eight spray passes. On 7th On all other runs all 3 tanks sprayed.	Plane made eight spray passes. On 7th run center tank only functioned. On all other runs all 3 tanks sprayed.	k only functioned.

MATERIAL:	Fuel	011		-	FLOW	RATE:	243 (app)	GPM
DATE:	4 June	1963		_	SYSTE	M: FID	AL	
FLIGHT #:	1			_	AIRSP	EED:	152	Knots
SAMPLE LI	NE: <u>B</u>			_	ALTIT	TUDE :	150	Feet
TIME OF R	ELRASE:	0445	Hours	_	AIRCE	LAFT COUR	ISB: 315	Degrees
DURATION:		9.2	Seconds	_	WIND	VECTOR:	296°/3.5	mph
	- - .	0=1==					Om 1 m = 0.11	
			ON G.F	,A, S	TATION	G,P.A.	STATION	G.P.A.
	1 - 15 Blan	LK						
16								
17								
18								
19								
20	0.2							
21	0.3							
22 23	0.6							
23 24	3.1							
25								
26								
27								
28	5.2							
29	8.3							
30	6.0							
31	0.4							
32 33	0.3							
34								
35								
36		1 . 1						
Stations	37 - 100 B	Lank						

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MATERIAL: Fuel 011	FLOW RATE: 245 (app) GPM
DATE: 4 June 1963	SYSTEM: FIDAL
FLIGHT #: 2	AIRSPEED: 156 Enots
SAMPLE LIME: B	ALTITUDE: 150 Feet
TIME OF RELEASE: 0448 Hours	AIRCRAFT COURSE: 315 Degrees
DURATION: 9,0 Seconds	WIND VECTOR: 296°/3.5 mph
STATION G.P.A. STATION G.P.A. Stations 1 - 68 Blank	STATION G.P.A. STATION G.P.A. 69 0.4 70 0.3 71 1.6 72 3.2 73 3.1 74 4.0 75 5.0 76 7.7 77 10.0 78 1.4 79 0.4 80 0.3 Stations 81 - 100 Blank

	Type description Type Ty

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material:	Fuel	011		Flow	RATE:	255 (app)	GPH
DATE:	4 June	1963		SYSTE	M:	IDAL	
FLIGHT #:	3			AIRSP	RED:	158	Knots
SAMPLE LI	NE:	В		ALTIT	UDE:	150	Peet
TIME OF B	ELRASE:	0507	Hours	AIRCE	AFT COU	RSE: 315	Degraes
DUBATION:	11		Seconds	WIND	VECTOR:	299°/3.4 mg	h
CTATION	C P 4	CTATION	C B A	CTATION.	C B A	STATION	C B A
	1 - 9 Flank		G, F, A,	PIVITON	G,P,A,	STATION	<u>, P, A, </u>
10							
11							
12							
13							
14							
15							
16							
17	-						
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
Stations	30 - 100 B	lank					

.

MATERIAL: Fuel Oil	FLOW RATE: NA
DATE: 4 June 1963	SYSTEM: FIDAL
FLIGHT #:4	AIRSPEED: NA
SAMPLE LINE: B	ALTITUDE: 150 Feet
TIME OF RELEASE: 0509 Hours	AIRCRAFT COURSE: 315 Degrees
DURATION: NA	WIND VECTOR: 299°/3,4 mph
STATION G.P.A. STATION G.P.A.	STATION G.P.A. STATION G.P.A.
	66 0.0 67 0.0 68 0.1 69 0.3 70 1.3 71 3.7 72 4.4 73 4.5 74 5.2 75 6.3 76 8.8 77 5.2 78 0.7 79 0.4 80 0.2 81 0.2
	82 0.2 83 0.1 84 0.1 85 0.1 Stations 86 - 100 Blank

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MATERIAL: Fuel	011		FLOW RATE:	NA	
DATE: 4 June 19	63		SYSTEM:	FIDAL	
FLIGHT #: 5			AIRSPEED:	NA	
SAMPLE LINE: B			ALTITUDE:	150	Feet
TIME OF RELEASE:	0527	Hours	AIRCRAFT COUR	SE: 315	Degrees
DURATION: NA			WIND VECTOR:	308°/4.6 mph	
STATION G.P.A. Stations 1 - 23 Blank	STATION	G.P.A.	STATION G.P.A.	STATION	G.P.A.
24 0.2 25 1.3	27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	0.1 4.1 2.7 4.3 3.6 3.7 2.9 1.0 0.6 0.7 0.4 0.3 0.5 0.2 0.3 0.3 0.3 0.3			

MATERIAL: Fuel Oil	FLOW RATE:	NA
DATE: 4 June 1963	SYSTEM:	FIDAL
FLIGHT #: 6	AIRSPEED:	NA
SAMPLE LINE: B	ALTITUDE:	150 Feet
TIME OF RELEASE: 0529 Hours	AIRCRAFT COURSE	: 315 Degrees
DURATION: NA	WIND VECTOR:	308 ^C /4.6 mph
STATION C. D. A. STATION C. D. A.	STATION O D A	STATION O. D. A.
STATION G.P.A. STATION G.P.A. Stations 1 - 71 Blank	72 0.1	SIATION G.P.A.
OCCUPANT - /I DIENK	73 0.4	
	74 1.7	
	74 1.7 75 2.8	
	76 2.3	
	77 2.1	
	78 3.0	
	79 4.4	
	80 4.8	
	81 3 0	
	82 1.6	
	83 0.9	
	84 0.6	
	85 0.4	
	86 0.5	
	87 0.2	
	88 0.2 89 0.4	
	90 0.1	
	90 0.1	
	92 0,2	
	93 0.1	
	94 0.1	
	95 0.1	
	Stations 96 · 100 B	lank

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きを		
14 007 CO. 18 18 18 18 18 18 18 18 18 18 18 18 18	***************************************	
23 5 31 5 37 35		
1	•	

MATERIAL:	Fuel C	il				FLOW	RATE:	NA.	
DATE: 4	June 19	63		_		Syste	M:	FIDAL	
FLIGHT #:	7			_		AIRSI	PEED:	NA NA	
SAMPLE LINE:	B			_		ALTI	TUDE :	150	Feet
TIME OF RELEASE	:	0544	Hou	r.		AIRÇ	RAFT COU	TRSE: 315	Degrees
DURATION:	NA.					WIND	VECTOR:	317°/6.1 =	ıph
STATION G.P.A. Stations 1 - 21	STA	TION	G,P,A	•	STA	LION	G.P.A.	STATION	G.P.A.
Stations 1 - 21									
			1.1						
			0.8						
		25							
			1.3						
		27	1.5						
			1.6						
			1.3						
		30							
		31							
		32	- • •						
			0.6						
		34 35	0.4						
		36	0.4						
		37	0.2						
		38	0.3						
			0.3						
		40							
		41							
		42							
		43	0.3						
		44	0.4						
	St	ations		100	Blank				

Total <u>15.8</u>

MATERIAL:	Fuel Oil		FLOW R	ATE:	NA .	
DATE:	June 1963		SYSTEM	l:	IDAL	
FLIGHT #:	88		AIRSPE	ED:	NA NA	
SAMPLE LINE:	B		ALTITU	DE:	150	Feet
TIME OF RELEASE	3: 0 5 46	iiour	AIRCRA	AFT COURS	E: 315	Degrees
DURATION:	NA.		WIND V	/ECTOR:	317°/6.1 mp	h
STATION G.P.A	. STATION	G.P.A.	STATION	G.P.A.	STATION	G.₽,A.
Stations 1 - 7	2 Blank		73	1.0		
			74	2.0		
			75 76			
			76 7 7			
			7 <i>7</i> 78			
			79 79			
				3.7		
			81	2.7		
			82	0.8		
			83	1.1		
			84	0.6		
			85	0.2		
			86			
			87			
			88	0.1		
			89	0.3		
			90 91	0.3		
			91 92	0.1		
			92 93			
			93 94	• • -		
			95			
				96 - 100) Blank	

Total 29.0

The second secon

PIDAL PLIGHT DATA

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05070 NOZZLE TYPE: LIQUID SPRAYED: Fuel 011 CONFIGURATION: All tanks DATE FLOWN: 5 June 1963

NUN #1 LANK NOTE	31.5-33.5		
Left Rayeb: 8 Sec Right RAYED: 8 Sec Right Left Rhots Ctr RAYED: 8 Sec Right Ctr Ctr			Right tach, and center pressure gage
Knots Ctr		76	still non-functional.
RAYED: 8 Sec Right Left Knots Ctr (B): 159-157 Ctr (RAYED: 8 Sec Right Left Left		« рргож 98	
Mots Left Knots Ctr RAYED: 8 Sec Right Left Left	24-25	32	
D: 159-157 Ctr RAYED: 8 Sec Right Left			
(D: 159-157 Ctr RAYED: 8 Sec Right Left Ctr	32	76	
RAYED: 8 Sec Right Left	00	96	
Left Left	25	83	
Left Left			Both working tachs, failed on this
D. 160 Vanta	33-33.5	25	fun. investigation enough
		97	
	25-24.5	83	
\vdash			Ran out of film at beginning of
RUN #4	34	95	run 4.
AIRSPEED: 161 Knots Ctr		97	
	23.5	81	

TIME SPRAYED: GENERAL REMARKS:

Plane made eight spray runs.
On 7th run right tank failed to function.
All tanks sprayed on all other runs.
Tanks continued to dribble for about 2000 ft. after spray was shut off.

mater ial	:Fu	el Oil		FLOW RATE:	274 (app)	GPM
DATE:	5 June	1963		SYSTEM:	FIDAL	
FLIGHT #	:1_			AIRSPEED:	157	Knots
SAMPLE L	INE:	3		ALTITUDE:	150	Feet
TIME OF	RELEASE:	0441	Hours	AIRCRAFT COU	RSE: 315	Degrees
DURATION	:8		Seconds	WIND VECTOR:	$2/\varepsilon^{\circ}/3.3$ mpl	h
STATION	G.P.A.	STATION	G.P.A.	STATION G.P.A.	STATION	G.P.A.
1	0.2	408	0.0	Stations 51 - 1	.00 Blank	
2	0.1 0.2 6.3	41 42 43	0.0			
3	ə .2	42	0.1			
	0.3	43	0.0			
. 5	⊍. 3	44	0.1			
		4 5 46	0.2			
		40 47				
8	0.3 0.3					
		49				
	- •	50				
12		30	0.1			
13						
14						
15						
16						
	3.2					
	4.1					
	4.0					
20	4.3					
21	4.3 2.2 0.5					
22	ე.5					
23	0.1					
Station	s 24 - 39 B	lank				

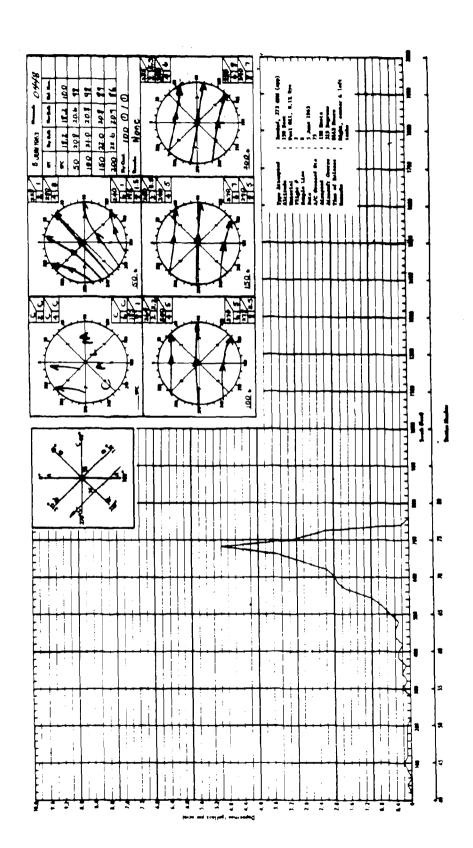
*40-50 thought to be B-2 (Not included in total deposit here but on B-2)

Total 31.2

MATERIAL: Fuel Oil		FLOW R	ATE: 2	73	GPH
DATE: 5 June 1963		SYSTEM	FIDA	<u>L</u>	
FLIGHT #: 2		AIRSPE	BD:1	58	Knots
SAMPLE LINE: B		ALTITU	DE:1	50	Feet
TIME OF RELEASE: 0443	Hours	AIRCRA	FT COURS	E: 315 [egrees
DURATION: 8	Seconds	WIND V	ECTOR:_	278°/3.3 mph	
STATION G.P.A. STATION	G.P.A.	STATION	G,P,A,	STATION	G.P.A.
Stations 1 - 39 Blank		40* 41	0.0	68 69	1.7
		42	0.1	70	2.0
		43		71	
		44		72	2.9
		45		73	3.5
		46	0.1	74	5.0
		47	0.1	73 74 75	3.1
		48	0.1	75	2.2
		49	0.1	77	0.2
		50	0.1	Stations	78 - 100
		Stations	51 - 54	Blank	Blank
		55 5 6	0.2		
		56	0.1		
		57			
		58			
		59			
		60			
		61	0.2		
		62 63	0.4		
		63	5.4		
		64			
		65	-		
		66			
		67	1.0		

*See B-1

Total 30.3



MATERIAL: Fuel Oil	flow rate:	275	GPH
DATE: 5 June 1963	SYSTEM:	FIDAL	
FLIGHT #:3	AIRSPEED:	160	Knots
SAMPLE LINE: A	ALTITUDE:	150	Paet
TIME OF RELEASE: 0502 Hours	AIRCRAFT COUR	SE: 270	Degrees
DURATION: 10 Seconds	WIND VECTOR:	284 ⁰ /4.8 mapl	1
STATIONS G.P.A. STATION G.P.A. Stations 1 - 74 Blank	STATION G.P.A.	STATION	G.P.A.
Stations 1 - 74 Blank	75 0.1	77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 99	2.2 1.8 3.2 2.5 2.2 2.7 2.4 2.2 1.9 0.5 0.5 0.3 0.3 0.1 0.1 0.1

Total <u>28.3</u>

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The contract of the selection of the contract
MATERIAL: Fuel 0	il		FLOW	RATE:_	273	GPM
DATE: 5 June	1963		SYST	BH:	FIDAL	
FLIGHT #:	4		AIRS	PEED:	161	Knots
SAMPLE LINE:	A		ALTI	TUDE:	150	Feet
TIME OF RELEASE:	0504	Hours	AIRC	RAPT CO	BSE: 270	Degrees
DURATION:	NA.		WIND	VECTOR	2840/4.8	p h
STATION G.P.A.	STATION	G.P.A.	STATION	G.F.A.	STATION	G.P.A.
Stations 1 - 21 Bla	nk 22	0.0				
	23	4.3				
	24	3.5				
	25	2.3				
	26	3.3				
	27	3.0				
	28	3.6				
	29	3.7				
	3 0	4.0				
	31	1.0				
	32	0.9				
	33	0.5				
	34	0.3				
	35	0.2				
	36					
	37	0.1				
	38	0.1				
	39	0.1				
	40	0.1				
	Stations	41 - 100	Blank			

17 (4) T 10 10 10 10 10 10 10 10 10 10 10 10 10		20 (1) (1) (2) (2) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4	
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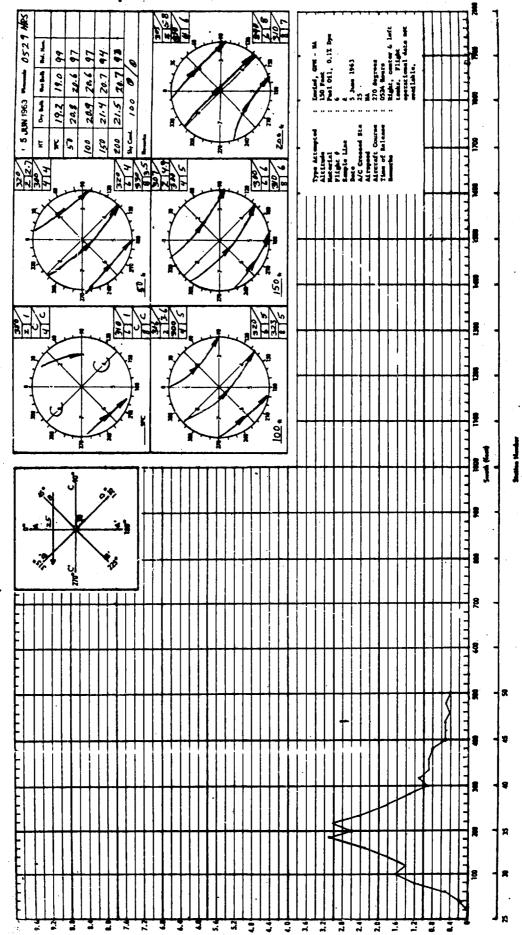
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MATERIAL: Fuel 011	FLOW	RATE:	NA	
DATE: 5 June 1963	SYSTE	H:	FIDAL	
PLIGHT #:5	AIRSI	EED:	NA NA	
SAMPLE LINE: A	ALTII	TUDE: 15	0	Feat
TIME OF RELEASE: 0522 Hours	AIRCE	LAFT COURS!	: 270	Degrees
DURATION: NA	WIND	VECTOR:	309°/4,1 m	ph
STATION G.P.A. STATION G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 50 Blank	51	0.4	76	0.6
	52	0.4	77	1.8
	53	0.4	78 79	1.9
			79 80	1.7
	55	0.4	80 81	
	57		82	
		0.1	83	
		0.2	84	
	60	0.2	85	2.0
	61	0.2	86	1.1
	62	0.3	87	0.7
	63		88	
	64	0.3	89	0.5
	65	0.2	90	0.5
	66	0.0	91	0.4
	67	0.1	91 92 93 94	0.4
	68	0.1	93	0.3
	69	0.1	, , ,	0.7
			95	
			96	
			97	
	73	0.1	98	0.2
	74	0.1	99	0.1
	75	0.1	100	0.1

الاستهيم والمفيض حيومة لأكراف الأركز أأبالها لاعتب الدائم وحدود بالحسيدة

MATERIAL: 1	Fuel Oil		FLOW RATE:		
DATE: 5 Jun	ne 1963		SYSTEM:	YIDAL	
FLIGHT #:	6		AIRSPEED:	HA	
SAMPLE LINE:	Α		ALTITUDE:	150	Teet
TIME OF RELEASE:_	0524	Hours	AIRCRAFT COURS	B: 270	Degrees
DURATION:	NA		WIND VECTOR:_	309 ⁰ /4	.1 mb
STATION G.P.A.	STATION	G.P.A.	STATION G.P.A.	STATIO	W G.P.A.
Stations 1 - 26 B	27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	0.5 1.2 1.6 1.4 1.8 2.3 3.1 2.6 3.0 2.4 1.8 1.3 0.9 1.1	Stations 51 - 100	, Bigus	



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MASS MEDIAN DIAMETER

DATE: 5 June 1963	SPREAD FACTOR: 6.0
FLIGHT #:	CONVERSION FACTOR: 2.5
SAMPLE LINE: D	PAPER: Kromekote, white
FLOW RATE: NA	MATERIAL: Fuel Oil
	SVSTRM: PIDAL

MMD = Spot D Max = 3500 = 233.3 Microns
Spread Factor x Con. Factor 6.0x2.5

Max. Sph. Dia. = $\frac{5000}{6.0}$ = 833.3 Microns

Min. Sph. Dia. = $\frac{100}{6.0}$ = 16.7 Microns

mater ial	:	Fuel Oil		FLOW RATE:	NA.	 - <u></u> -
DATE:	5 J	June 1963		SYSTEM:	PIDAL.	
FLIGHT #	:	7		AIRSPRED:	NA	
Sample L	INE:	D		ALTITUDE: 1	50	Feet
TIME OF	RELEASE:	0544	Hours	AIRCRAFT COUR	SE: <u>945</u>	Degrees
DURATION	:	NA		WIND VECTOR:_	303°/5,1 mp	h
STATION	G.P.A.	STATION	G.P.A.	STATION G.P.A. Station 51 - 100	STATION	G.P.A.
1	0.3	26	0.0	Station 51 - 100	Blank	
2	0.3	27				
-	0.2	28 29				
	0.3		0.0			
	0.3	31				
	0.4	32	0.0			
	1.0	33	0.0 0.0			
9	1.4	34	0.0			
10	1.8	35	0.0			
	4.1	36				
	1.1	37				
13	2.3	38				
14	0.9	39				
15	0.3	40	0.0			
16	0.0 0.0	41 42	0.1			
	0.0	42				
	0.0	44				
	0.0	45				
	0.0	46				
	0.0	47				
	0.0	48	0.1			
24	0.0	49	5.1			
25	0.0	50	0.1			

#	# ### ###
20 1 1 0 5 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Creamind, GM - MA Creamind, GM - MA Tyo Peer Twel Oil, O.11 Dys D S S June 1963 S S S June 1963 S S S June 1963 S S S S S S S S S S S S S S S S S S S
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MASS MEDIAN DIAMETER

DATE: 5 Jun	1963	SPREAD FACTOR:	6.0
FLIGHT NO.:	8	CONVERSION FAC	TOR: 2,5
SAMPLE LINE:	D	PAPER: Krome	kote, white
FLOW RATE:	NA	MATERIAL:	Fuel 0il
		SYSTEM: FID	AL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
76	5	4700			
77	1	4100*			
76	6	4000			
76	8	3900			
76	7	3800			
76	9	3700			
77	3	3600			
7 7	2	3500			
77	4	3400			
77	10	3300			
77	11	3200			

MMD = Spot D Max = 4100 = 273.3 Microns Spread Factor x Con. Factor 6.0x2.5

Max. Sph. Dia. = $\frac{4700}{6.0}$ = 783.3 Microns

Min. Sph. Dia. = $\frac{100}{6.0}$ = 16.7 Microns

MASS DEPOSIT

MATERIAL: Fuel Oil	FLOW RATE:	NA
DATE: 5 June 1963	SYSTEM:	FIDAL
FLIGHT #: 8	AIRSPEED:	NA
SAMPLE LINZ: D	ALTITUDE:	150 Feet
TIME OF RELEASE: 0546 Hours	AIRCRAFT COUR	SB: 045 Degrees
DURATION: NA	WIND VECTOR:_	303°/5.1 mph
STATION G.P.A. STATION G.P.A.	STATION G.P.A.	STATION G,P,A.
Stations 1 - 50 Blank	51 0.1	76 0.4
	52 0.1 53 0.1	77 0.1
	54 0.2	Blank
	55 0.2	
	56 0.2 57 0.2	
	58 0.3	
	59 0.3	
	60 0.3	
	60 0.3 61 0.4	
	62 0.4	
	63 0.6	
	64 0.7	
	65 0.9	
	66 1.3	
	67 1.2 68 1.5	
	68 1.5 69 1.3	
	70 1.3	
	71 1.3	
	72 1.2	
	73 1.5	
	74 1.4	
	75 0.9	

Section of the Completion of t

19.0 94 21.3 97 21.0 99 20.9 91 20.8 88 0 0		Crearfed, GPt - IA. 150 Feet. Peet Oil, 0.11 Dre B
2 5 JUN 1953 8 KT 19.7 50 21.6 150 22.0 150 22.2 4 200 22.2 4 200 22.2	250 1 200 1	Type Attempted 1 Altitude 1 Altitude 1 Altitude 1 Altitude 1 Sample Lian 1 Altitude 2 Attempted 2 Attempted 2 Attempted 3 Atte
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	, B	1 1 8 E
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	Deposition (gallons per ecre)	

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FIDAL FLIGHT DATA

CONFIGURATION: All tanks 7 June 1963 DATE FLOWN:

MOZZLE TYPE: U5070 LIQUID SPRAYED: Fuel 011

E. B. Maria Maria and C. A. S. F. C.

power position or air bubble in line Center pressure gage & right tachom-eter still out of order, full power. Other tanks falled to 2nd run left tank failed to reach lst run - probably 10 sec. burst. Left temk indicates not running full. Bither blades not in full REMARKS prie. PLOW RATE GPM approx 20 3 74 • 23 3 PRESSURE PSI 19.5-20 **8-**9 12 0 1200-960 1400 ŝ 8 RPM 0 Right Right TANK Left Laft Ctr AIRSPEED: 139-140 Knots | Ctr TIME SPRAYED: 8 Sec AIRSPEED: 158 Knots TIME SPRAYED: CENERAL REMARKS: RUN #1 RUN #2

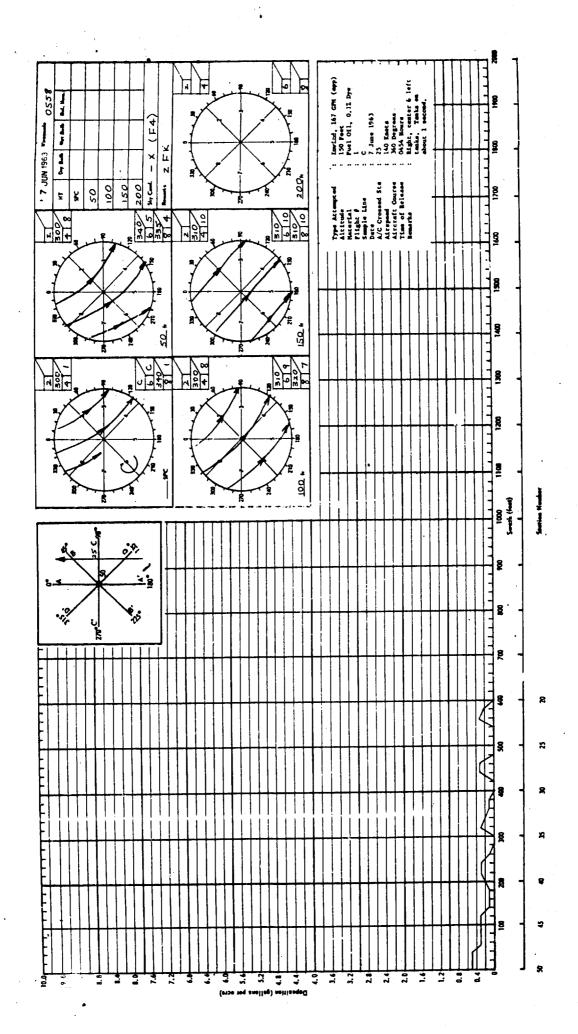
Flane made 4 spray runs.

Run #1 - pilot sprayed only about 1 second.

Run #2 - left tank falled to feather.

Runs #3 and #4 - center tank only.

MATERIAL:	Fuel Oil		FLOW RATE:	167 (app)	GPM
DATE:	7 June 1963		System: Fi	DAL	
FLIGHT #:	1		AIRSPEED:	140	Knots
SAMPLE LINE:	С		ALTITUDE:	150	Feet
TIME OF RELEASE:	0454	Hours	AIRCRAFT COU	ISE: 368	Degrees
DURATION:	88	Seconds	WIND VECTOR:	313°/6.0 =	oh.
STATION G.P.A.	STATION	G.P.A.	STATION G.P.A.	STATION	G.P.A.
20 0.0 21 0.2 22 0.3 23 0.0 24 0.0 25 0.0	27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	0.3 0.0 0.0 0.1 0.1 0.2 0.3 0.0 0.1 0.3 0.2 0.1 0.1 0.1 0.3 0.3 0.3 0.3	Stations 51 - 1	JO BERIEF	



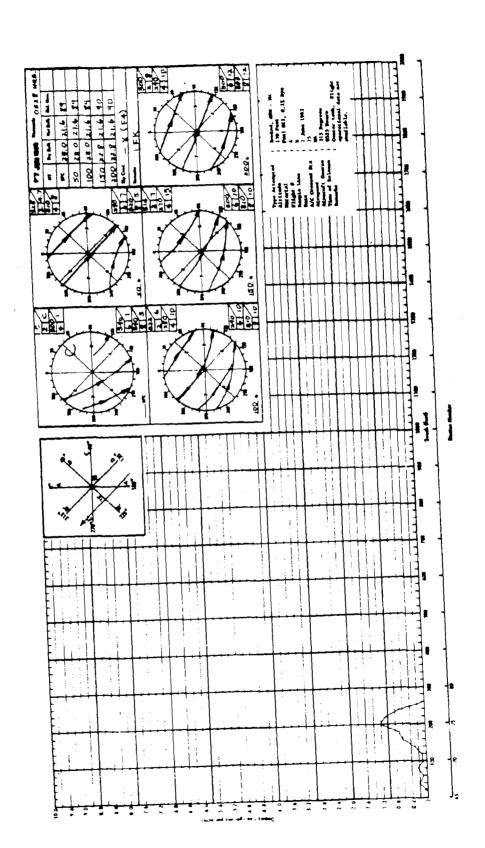
MATERIAL: Fuel Oil	FLOW RATE: 30 GPM
DATE: 7 June 1963	SYSTEM: FIDAL
FLIGHT #: 2	AIRSPEED: 158 Knots
SAMPLE LINE: C	ALTITUDE: 150 Feet
TIME OF RELEASE: 0458 Hours	AIRCRAFT COURSE: 360 Degrees
DURATION: NA	WIND VECTOR: 313°/6.0 mph
STATION G.P.A. STATION G.P.A.	
Stations 1 - 50 Blank	51 1.2
	52 0.7
	53 0.5
	54 0.5
	55 0.4
	56 0.3
	57 0.5 58 0.5
	59 0.5
entre de la companya	60 0.7
	61 0.9
·	62 1.2
	63 1.3
	64 1.6
	65 1.6
·	66 2.2
	67 3.6
	68 3.1
	69 2.2
	70 1.2
	71 1.4
	72 0.5
•	73 0.1 Stations 74 - 100 Blank

Total <u>26.7</u>

MATERIAL: Fue	1 011		FLOW	RATE:	NA NA	
DATE: 7 June	e 1963		SYSTE	M:FI	DAL	
FLIGHT #:	3		AIRSE	BED:	NA.	
SAMPLE LINE:	В		ALTII	TUDE:	150	Toet
TIME OF RELEASE:	0518	Hours	AIRC	LAFT COURSE:	315	Degree
DURATION:	NA.		WIND	VECTOR:	3010/8.4	ap h
STATION G.P.A.	STATION	G,P.A.	STATION	G.P.A	STATION	G.P.A.
Stations 1 - 27 Bl	ank 28	0.0				
	29					
	30					
	31					
	32					
	33					
	34					
	35					
	36					
	37					
	38					
	39 40					
		∪.1 .• /1 - 10:	O Blank			

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MATERIAL: Fuel Oil	FLOW RAT	B:	NA	
DATE: 7 June 1963	SYSTEM:_		FIDAL	
FLIGHT #: 4	A IRSPERD	:	NA	
SAMPLE LINE: B	ALTITUDE	:	150	Feet
TIME OF RELEASE: 0523 Hours	AIRCRAPT	COURSE	: 315	Degrees
DURATION: NA	WIND VE	TOR:	301°/8.4 =	h
STATION G,P,A, STATION G,P.A.	STATION G.	P.A.	STATION	G.P.A.
Stations 1 - 66 Blank	67 0,			
	68 0.	.1		
	69 0.	, 2		
	70 0.	. 1		
	71 0	.1		
	72 0	.3		
	73 0	. 6		
	74 0	.7		
	75 1	. 2		
	76 1	. 1		
	_	• -		
	77 0	. 7		



PIDAL FLIGHT DATA

NOZZLE TYPE: U5070 LIQUID SPRAYED: Fuel 011 All tanks COMPIGURATION: DATE FLOWN: 9 June 1963

run. All subsequent runs on center and right tank only. Right tachom-Left tank failed to feather on lat eter and center pressure gage are still non-functional. REMARKS PLOW RATE GPM approx 84 epprox 96 approx 91 6 • 92 93 6 18 6 PRESSURE PSI 31,0 2 2 53 0 27 • 1500 1600 8 1800 1500 900 1600 3 1660 1760 000 1600 RA R1ght Right Right Right TANK Left Left Left Left Ctr Ctr Ctr Ctr 6 Sec 5 Sec 150 Enots AIRSPEED: 160 Knots AIRSPEED: 162 Knots 155 Knots 6 Sec TIME SPRAYED: TIME SPRAYED: TIME SFRAYED: AIRSPEED: AIRSPEED: RUN #2 RUN #4 RUN #1 RUN #3

TIME SPRAYED: 5 Sec | Right | 800 | GENERAL REMARKS: 1. Plane made 10 passes.

MASS MEDIAN DIAMETER

DATE:	9 June 19	63	SPREAD FACTOR: 6.0
FLIGHT #:_	1		CONVERSION FACTOR: 2.5
SAMPLE LIN	TE: C		PAPER: Kromekote, white
FLOW RATE:	269	GPM	MATERIAL: Fuel Oil
			SYSTEM: PIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
17	1	4700			_
17	2	4000*			
17	3	3900			
17	5	3800			
17	4	3700			
17	7	36 00			
17	8	350 0			
17	6	3400			
17	9	3300			
17	10	3200			

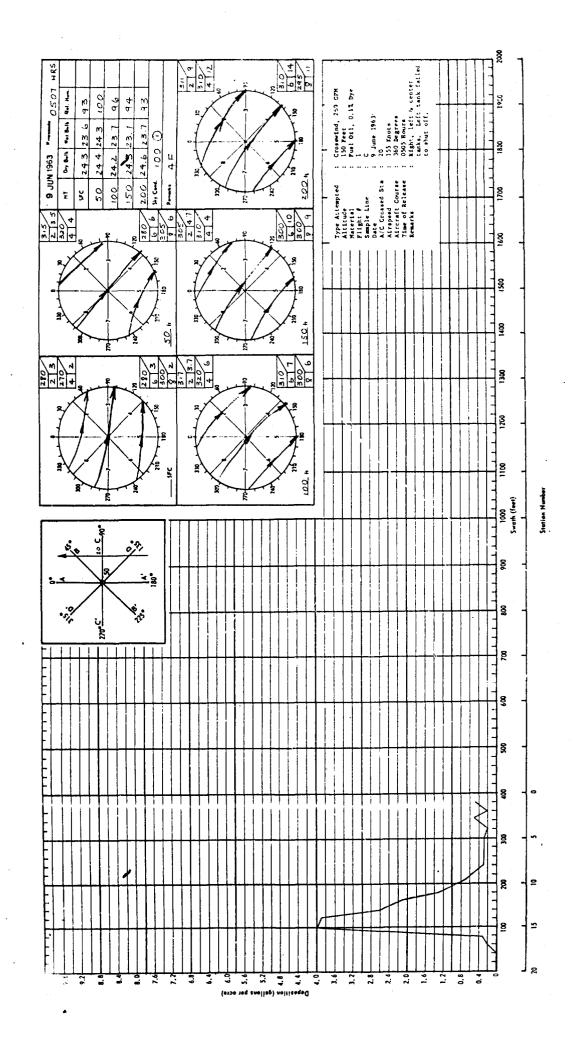
$$\frac{\text{MMD} = \frac{\text{Spot D Max}}{\text{Spread Factor x Con. Factor}} = \frac{4000}{6.0 \times 2.5} = 266.7 \text{ Microns}$$

Max. Sph. Dia. =
$$\frac{4700}{6.0}$$
 = 783.3 Microns

Min. Sph. Dia. =
$$\frac{100}{6.0}$$
 = 16.7 Microns

والمراجعة والمرا

MATERIAL:	Fuel	011		FLOW RATE:	269	GPM
DATE:	9 June	1963		System:	FIDAL	
FLIGHT #:	1			AIRSPEED:_	155	Enots
SAMPLE LI	INB:	С		ALTITUDE:_	150	Feet
TIME OF B	ELEASE:	0505	Hours	AIRCRAFT C	OURSE: 360	Degrees
DURATION:	66		Seconds	WIND VECTO	R: 304°/6,	2 mph
					-	
STATION	G.P.A.	STATION	G.P.A.	STATION G.P.	A. STATI	ON G.P.A.
1	0.5					
2						
	0.5					
	0.2					
	0.3					
	0.3					
	0.3					
	0.3					
9						
10	- • -					
11	- • -					
12	- • -					
13						
14						
15						
16	- • -					
17						
Stations	18 - 100 B	lank				



MASS MEDIAN DIAMETER

DATE: 9 June 1963	SPREAD FACTOR: 6.0
FLIGHT #: 2	CONVERSION FACTOR: 2.5
SAMPLE LINE: C	PAPER: Kromekote, white
FLOW RATE: 171 (app) GPM	MATERIAL: Fuel Oil
	SVSTEM, ETDAI

STA.	DROP #	SIZE	STA.	DROP #	SIZE
77	1	4000*			
. 77	.2	3800			
77	. 8	3700			
77	3	3600			
77	6	350 0			
77	4	3400			
77	9	3300			
77	5	3200			
_77	7 .	3100			

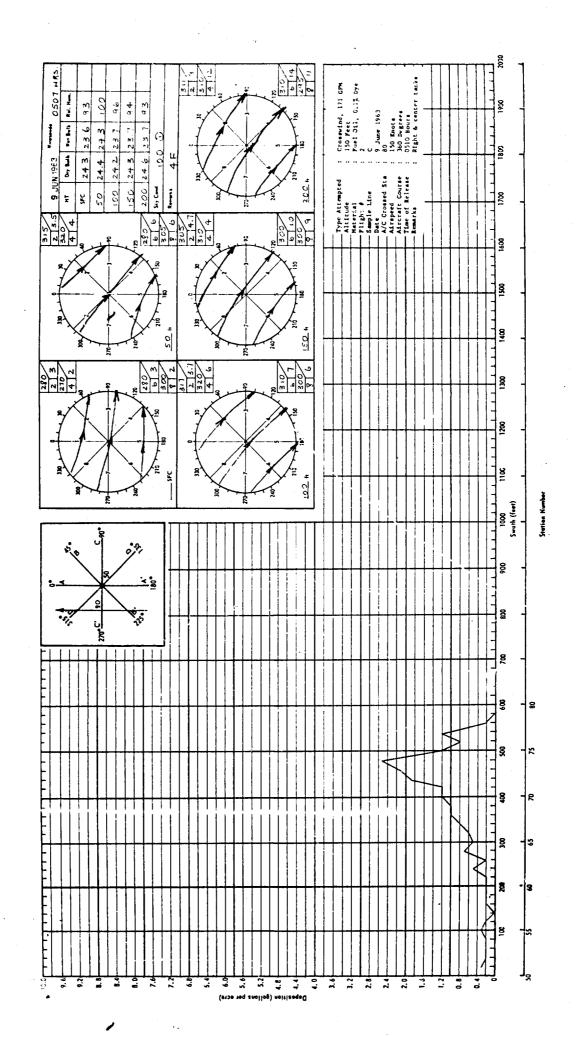
MMD - Spot D Max = $\frac{4000}{\text{Spread Factor x Con. Factor}} = \frac{4000}{6.0 \text{x}^2.5} = 266.7 \text{ Microns}$

Max. Sph. Dia. =
$$\frac{4000}{6.0}$$
 = 366.7 Microns

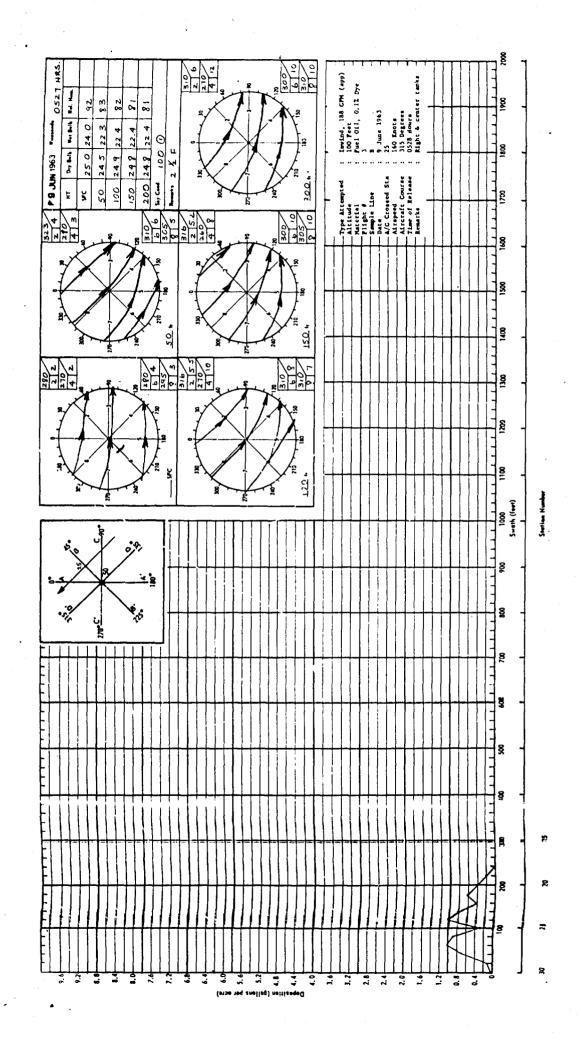
Min. Sph. Dia. = $\frac{100}{6.0}$ = 16.7 Microns

MATERIAL: Fuel 011		FLOH	RATE:	171 (app)	GPH
DATE: 9 June 1963		SYSTE	H:P	IDAL	
FLIGHT #: 2		AIRSI	##D:	50	Inote
SAMPLE LINE: C		ALTI1	TUDE: 1	50	lest
TIME OF RELEASE: 0510	Hours	AIRC	AFT COUR	SE: 360	Degrees
DURATION: 6	Seconds	MIMD	VECTOR:	304°/6.2 mg	<u> </u>
STATION G.P.A. STATIO	W G.P.A.	STATION	G.P.A.	STATION	G.2.A.
Stations 1 - 50 Blank	_	51		76	0.8
		52	0.2	77	
		53	0.2	78	
		54		Stations	
		55	0.3		Blank
		5 6	0.2		
			0.0		
			0.2		
			0.2		
			0.2		
			0.2		
		62 63	0.5 0.2		
		64	0.2		
and the		65	0.7		
		66	0.5		
			0.8		
			1.0		
			1.0		
			1.2		
			1.2		
			1.9		
			2.1		
		74	2.5		
		75	1.2		

のできる。 1 日本の前の音楽のできる。 1 日本の一名の「中央の一名の「中



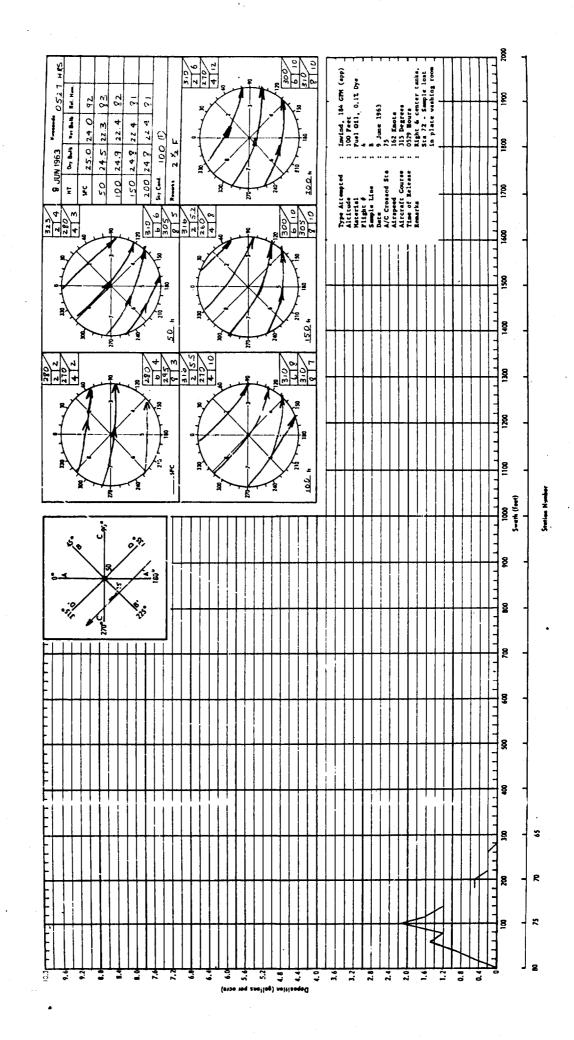
MATER IAL	:	Fuel Oil		FLOW	RATE: 188	(app)	GPM
DATE:	9	June 1963		SYSTE	M: FIDAL		
FLIGHT #	:	3		AIRSE	PEED: 160		Knots
SAMPLE L	INE:	В		ALTII	TUDE: 100	·	Feet
TIME OF	RELEASE	: 0528	Hours	AIRCR	AFT COURSE:_	315	Degrees
DURATION	•	NA	·	WIND	VECTOR:	297 /6	.5 mph
STATION	G.P.A.	STATION	I G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Station	1 - 18 1	Blank					<u> </u>
	0.2	,					
	0.4						
21	0.6						
22	0.4						
23	0.8						
24	1.0						
25	0.3						
	0.9						
	1.0						
	0.7						
	0.1						
Stations	30 - 10	00 Blank	•				



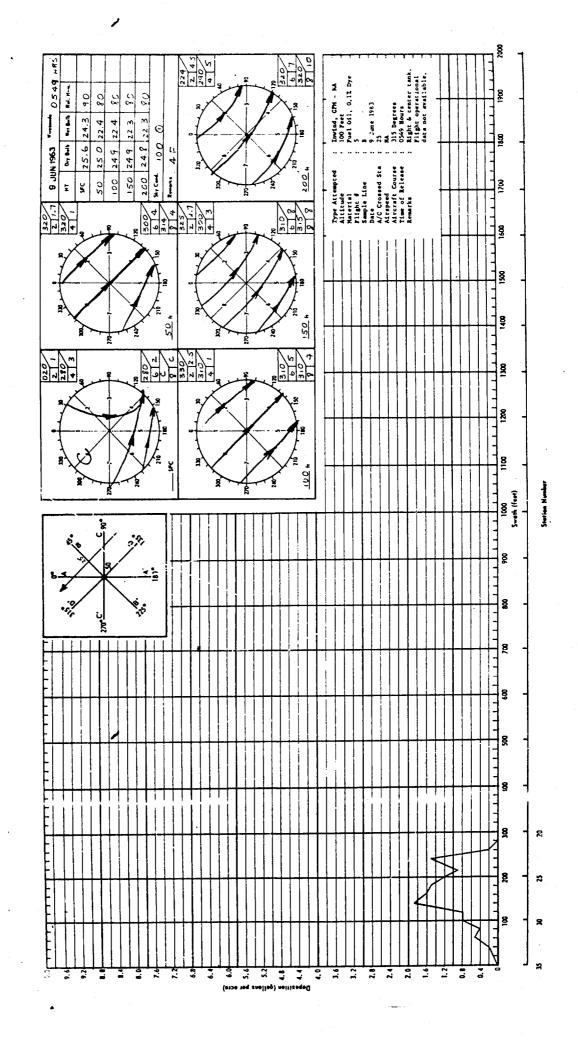
MATERIAL:	Fuel Oil		FLOW	RATE:	184 (app)	GPM
DATE: 9	June 1963		SYSTE	M:FII)AL	
FLIGHT #:	44		AIRSP	EED:	162	Knots
SAMPLE LINE:	B		ALTIT	UDE:	100	Feet
TIME OF RELEASE:_	0529	Hours	AIRCR	AFT COURS	SE: 315	Degrees
DURATION:	5	Seconds	WIND	VECTOR:_	297°/6.5 mph	
STATION G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 66 B	lank		67	0.2		
			68	0.2		
			69	0.2		
			70	0.5		
			71	0.5		
			72	*		
			73	1.2		
			74	1.6		
			75	2.1		
	. •		76	1.2		
	•		77	1.5		
			78	0.9		
			79	0.5		
			80	0.0		
			Stations	81 - 100	Blank	

Total 10.6

^{*}Sample spilled in wash room.



MATERIAL: Fuel Oil		FLOW	RATE:	NA	
DATE: 9 June 1963		SYST	EM:	FIDAL	
FLIGHT #:5		AIRSI	PEED:	NA	
SAMPLE LINE: B		ALTI	TUDE :	100	Feet
TIME OF RELEASE: 0549	Hours	AIRC	RAFT COUR	SE: 315	Degrees
DURATION: NA		WIND	VECTOR:_	303 ⁰ /3.9 m	nph
STATION G.P.A. STATION	W G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 21 Blank 22		•			
23	1.5				
24	0.9				•
25	1.2				
26	1.5				
	1.6	•			
	1.9				
	0.8				
	0.8				
	0.4				
	0.5				
	0.2				
	0.1				
	is 35 - 100	Blank			



TIME OF RELEASE: 0551 Hours AIRCRAFT COURSE: 315 Deg DURATION: NA WIND VECTOR: 303°/3.9 mph STATION G.P.A. STATION G.P.A. STATION G.P.A. STATION G.I Stations 1 - 69 Blank 70 0.3 71 0.5 72 0.9 73 1.2 74 1.7 75 2.6 76 1.7 77 1.1 78 2.0 79 1.0 80 1.0 81 0.5 82 0.4 83 0.3 84 0.4 85 0.2	RATE: NA	FLOW RATE:	Fuel Oil	MATERIAL:
SAMPLE LINE: B ALTITUDE: 100 TIME OF RELEASE: 0551 Hours AIRCRAFT COURSE: 315 Deg DURATION: NA WIND VECTOR: 303°/3.9 mph STATION G.P.A. STATION G.P.A. STATION G.P.A. STATION G.I Stations 1 - 69 Blank 70 0.3 71 0.5 72 0.9 73 1.2 74 1.7 75 2.6 76 1.7 77 1.1 78 2.0 79 1.0 80 1.0 81 0.5 82 0.4 83 0.3 84 0.4 85 0.2	1:FIDAL	SYSTEM:	9 June 1963	DATE:
TIME OF RELEASE: 0551 Hours AIRCRAFT COURSE: 315 Deg DURATION: NA WIND VECTOR: 303°/3.9 mph STATION G.P.A. STATION G.P.A. STATION G.P.A. STATION G.I Stations 1 - 69 Blank 70 0.3 71 0.5 72 0.9 73 1.2 74 1.7 75 2.6 76 1.7 77 1.1 78 2.0 79 1.0 80 1.0 81 0.5 82 0.4 83 0.3 84 0.4 85 0.2	ED: NA	AIRSPEED:	6	FLIGHT #:
DURATION: NA WIND VECTOR: 303°/3.9 mph STATION G.P.A. STATION G.P.A. STATION G.J. Stations 1 - 69 Blank 70 0.3 71 0.5 72 0.9 73 1.2 74 1.7 75 2.6 76 1.7 77 1.1 78 2.0 79 1.0 80 1.0 81 0.5 82 0.4 83 0.3 84 0.4 85 0.2	DE: 100 Feet	ALTITUDE:	В	SAMPLE LINE:
STATION G.P.A. STATION G.P.A. STATION G.P.A. STATION G.I Stations 1 - 69 Blank 70 0.3 71 0.5 72 0.9 73 1.2 74 1.7 75 2.6 76 1.7 77 1.1 78 2.0 79 1.0 80 1.0 81 0.5 82 0.4 83 0.3 84 0.4 85 0.2	FT COURSE: 315 Degrees	AIRCRAFT COU	0551 Hours	TIME OF RELEASE
Stations 1 - 69 Blank 70 0.3 71 0.5 72 0.9 73 1.2 74 1.7 75 2.6 76 1.7 77 1.1 78 2.0 79 1.0 80 1.0 81 0.5 82 0.4 83 0.3 84 0.4 85 0.2	ECTOR: 303°/3.9 mph	WIND VECTOR:	NA	DURATION:
Stations 1 - 69 Blank 70 0.3 71 0.5 72 0.9 73 1.2 74 1.7 75 2.6 76 1.7 77 1.1 78 2.0 79 1.0 80 1.0 81 0.5 82 0.4 83 0.3 84 0.4 85 0.2	G.P.A. STATION G.P.A.	STATION G.P.A.	STATION G.P.A.	STATION G.P.A.
86 0.2 87 0.2 Stations 88 - 100 Blank	0.5 0.9 1.2 1.7 2.6 1.7 1.1 2.0 1.0 0.5 0.4 0.3 0.4 0.2 0.2 0.2	71 0.5 72 0.9 73 1.2 74 1.7 75 2.6 76 1.7 77 1.1 78 2.0 79 1.0 80 1.0 81 0.5 82 0.4 83 0.3 84 0.4 85 0.2 86 0.2 87 0.2	Blank	Stations 1 - 69

land the second by the state of the second of the second second second second second second second second second

MATERIAL:I	Puel 011		FLOW !	MATE:	NA.	
DATE: 9	June 1963		\$Y\$18	K:	FIDAL	
FLIGHT #:	7		AIRSP	EED:		
SAMPLE LINE:	<u> </u>		ALTIT	UDE:	150	Feet
TIME OF RELEASE:	0610	Hours	ATRON	AFT COURS	BE: 315	Degrees
DERATION:	<u> </u>		AIMD	VECTOR:_	303°/3,9	eph
STATION G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 24 1			50	0.2		
	26	1.3	51			
	27	1.3	52		•	
	28	1.4	53			
	29		Stations	54 - 100	Blank	
	30	1.7				
	31	1.3				
		1.1				
	33	0.9				
	34	0.9				
	35	1.0				
	36	0.5				
	37	0.4				
		0.3				
	39	0.4				
	40	0.3				
	41	0.3				
	42	0.4				
	43	0.3				
		0.3				
		0.3				
	46	0.3				
	47					
	48					
	49					
	49	0.3				

MATERIAL:	Fuel Oil	FLOW RATE:	NA NA	
DATE:	9 June 1963	SYSTEM:	FIDAL	
FLIGHT #:		AIRSPEED:		
SAMPLE LINE:		ALTITUDE:	130	Pest
TIME OF RELEAS	IE: 0612 Hours	AIRCRAFT COURSE	i: 315	Degrees
STATION C.P.	STATION G.P.A.	STATION G.P.A.	STATION	G.P.A.
Stations 1 - 7	76 Blank		77	0.2
			78	0.5
			79	0.4
			80 81	0. 5 0.6
				0.7
			-	1.1
				1.0
				1.1
			86	1.0
			87	0.9
			88	0.8
				0.6
				0.2 0.2
				0.2
			93	0.2
			94	
			95	
				0.2
			97	Blank
			98	**
			99	11
			100	f f

HATERIAL: Fuel 011	FLOH	RATE:	ra	
DATE: 9 June 1963	SYSTE	M: PIDA	ւ	·····
FLIGHT #: 9	AIRSI	MEED: NA		
SAMPLE LINE: B	ALTI	TUDE:1	50	Foot
TIME OF RELEASE: 0629 Hours	ATRO	NAFT COURSE:	315	Dearess
DURATION: NA	WIND	VECTOR:	324°/3.2	38 5
Station G.P.A. Station G.P.A. Stations 1 - 52 Blank	Station	G.P.A.	Station 76	G.P.A.
	54 55 56 57 58 59 60 61 62 63 64 66 67 68 69 70	0.3 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.1 0.1 0.1 0.1 0.1 0.1	77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94	1.0 1.0 0.9 0.8 0.4 0.5 0.6 0.3 0.2 0.2 0.2
	71 72 73 74	0.1 0.1 0.1 0.2 0.2	96 97 98 99 100	0.2 0.1 0.1 0.1

حميه في ماه مي المقدمات يوم والله الموج وظافر وما لاد مام الإنجاعات الإراكية ويطأكم ومواه ومعاولات وأنه مدرد والدارية والمدردة

haterial:	Fuel Oil		FLOW RATE: NA
DATE:	9 June 1963		SYSTEM: FIDAL
FLIGHT #:	10		AIRSPEED: NA
SAIGLE LINE:	B		ALTITUDE: 150 Feet
TIME OF RELEASE	: 0631	Hours	ATRICHAPT COURSE: 315 Destroca
DURATION:	NA.		WIND VECTOR: 334°/3.2 mmh
STATION G.P.A.	STATION	G.P.A.	STATION C.P.A. STATION C.P.A.
Stations 1 - 23			Stations 51 - 100 Blank
		0.9	
		0.7	
		0.6	
		0.7	
		0.7	
	-	0.7	
		0.6	
	35		
	36	0.4	
	37	0.3	
	38	0.2	
	39		
	40		
	41		
	42	0.2	
	43	0.2	
		0.2	
	•	0.2	
		0.2	
		0.2	
24 0.0			
25 0.2	2 50	C.2	

and the state of

بعددات مصمحه بالأسم بمسيح يعينين يعميه فشمين يحجب العييد بالموالد بالأعظام الأطلاب الإيارية

PIDAL PLICHT DATA

MOZZLE TYPE: U5970 LIQUID SFRATED: Fuel Oil 11 June 1963 CONFIGURATION: All tanks DATE PLOWN:

	474.107	ALC:	PORSSIER PST	PLOW RATE CPH	residents.
	TURE				Laft and right tanks reversed to
I MIN	Left	1600	n	98	attempt to stop failure to feather
			;		on left tank. Center pressure gage
AIRSPEED: 150 Knots	113	1200		AC TOXICAL	STILL DOM-IUNCLIONAL AS to tage
THE CONTRACTOR / Can	Richt	908	18	67	
7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7					
		903.	23	*	
RUN #2	-				
ATRSPERD: 150 Knots	Ctr	1288	•	APPLICAT SA	•
ļ	;		•	67	
TIME SPRAYED: 4 Sac	Right				
CITIE #3	Laft	1600	24	82	
Knots		0071	1	Arorrott 76	
ATRSPERD: 158-159	1				
PING CPRAYED: 6 Sec	Right	600	18-17	95	
•	4	36.	36	\$6	
RUN #4					
ATRSPRED: 164-162	GET	1480	1	epprox 74	
	4	3	ĸ	8	
TIME SPEAKED: LONG					
4	1.068	99	53	\$9 \$ 9	
KUN 75					
AIRSPRED: 154-157	Ctr	1300		SEPTOR 63	
	440	ş	æ	7.6	ffile can out.
THE SEKAIDE	amara.	°	filehte toder		

GENERAL REMARKS: 1. Plans made 9 spray flights today.
2. All tanks functioned.

MASS MEDIAN DIAMETER

DATE: 11 June 190	63	SPREAD FACTOR: 6.0
FLIGHT #: 1		CONVERSION FACTOR: 2,5
SAMPLE LINE: C		PAPER: Kromekote, white
FLOW RATE: 203 (ap	p) GPM	MATERIAL: Fuel 011
		SYSTEM: PIDAL

STA.	DROP #	SIZE	STA,	DROP #	SIZE
32	9	3600*			
32	1	35 00			
32	2	3400			
32	3	3300			
32	4	320 0			
32	8	3100			
32	5	3000			
32	6	2900			
32	7	2700			

MMD = Spot D Max = 3600= 240 Microns Spread Factor x Con. Factor 6.0x2.5

Max. Sph. Dia. = $\frac{3600}{6.0}$ = 600 Microns

Min. Sph. Dia. = $\frac{100}{6.0}$ = 16.7 Microns

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MATERIAL: Fu	el Oil		FLOW RATE:	203	GPM
DATE: 11 June	1963		SYSTEM:	FIDAL	
FLIGHT #:			AIRSPEED:	150	Knots
SAMPLE LINE:	С		ALTITUDE:	100	Feet
TIME OF RELEASE:_	0448	Hours	AIRCRAFT COU	RSE: 360	Degrees
DURATION:	4	Sec.	WIND VECTOR:	256°/10,4	mph
STATION G.P.A. Stations 1 - 10 B	STATION	G.P.A.	STATION G.P.A. Stations 36 - 1	STATION	G,P.A.
	13 14 15 16 17 18	0.2 0.3 0.4 0.6 0.5 0.4 0.3			
	23 24 25 26 27 28 29 30 31 32 33	C.3 C.2 C.3 C.5 C.9 1.1 1.6 1.0 3.0 1.8 1.4 C.5 C.3 C.3			

A 1890.

<u>:</u>

MASS MEDIAN DIAMETER

DATE: 11 June 1963	SPREAD FACTOR: 6.0
FLIGHT #: 2	CONVERSION FACTOR: 2.5
SAMPLE LINE: C	PAPER: Kromekote, white
PLOW RATE: 203 (app)GPM	MATERIAL: Fuel 011
	CVSTDM. PINAI

STA,	DROP #	SIZE	STA,	DROP #	SIZE
77	3	3800×			
77	1	3700			
77	2	3600			
77	4	3500			
77	5	3400			
76	8	3300			
77	7	3200			
77	6	3000			
76	9	2900			
76	10	2800			

MMD = Spot D Max = 3800 253.3 Microns Spread Factor x Con. Factor 6.0x2.5

Max. Sph. Dia. = $\frac{3800}{6.0}$ = 633.3 Microns

Min. Sph. Dia. = $\frac{100}{6.0}$ = 16.7 Microns

MATERIAL: Fue	1 011		FLOW	rate:	203 (ap) GPM
DATE: 11 June	1963		SYSTE	м:	FIDAL	
FLIGHT #:	2		AIRSP	BED:	150	Knots
SAMPLE LINE:	2		ALTIT	UDE:	100	Feet
TIME OF RELEASE:	0450	Hours	AIRCE	AFT COUR	SE: 360	Degrees
DURATION:	4	Sec.	WIND	VECTOR:_	256°/10.4 m	ph
STATION G.P.A. Stations 1 - 50 Bl.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 50 Bl.	ank		51	0.6	76	0.3
			54	0.5	77	0.2
			5 5	0.4	/o Stationa	70 - 100
			55			Blank
			56			DIAME
				0.8		
			58	0.9		
			59	0.4		
			60	0.2		
				0.3		
			62	0.5		
			63	0.5		
			64	-		
			65 66	0.7 0.8		
			67	1.2		
			68	1.1		
			-	1.8		
				2.4		
				1.2		
			72	1.8		
			73	1 1		
			74	2.2		
			75	7.2		

MATERIAL:		ue 1 011		FLOW RATE:	227	GP74
DATE: 11 June 1963 FLIGHT #: 3 SAMPLE LINE: A TIME OF RELEASE: 0505 Hours				SYSTEM: FIDAL		
				AIRSPEED:	159	Knots
				ALTITUDE:	100	Feet
				AIRCRAFT COURSE: 278 Degrees		
DURATION:		6	Sec.	WIND VECTOR:_	258°/10.9	p h
STATION	G.P.A.	STATION	G.P.A.	STATION C.P.A.	STATIO	G.P.A.
Stations 1 - 15 Blank			Stations 27 - 100 Blank			
16 17 18 19 20 21 22 23 24 25	0.4 0.6 0.7 0.6 1.5 1.8 3.2 1.9					

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MATERIAL: Fuel 011	FLOW RATE: 249 (app) GPM
DATE: 11 June 1963	SYSTEM: FIDAL
FLIGHT #:4	AIRSPEED: 163 Knots
SAMPLE LINE: A	ALTITUDE: 100 Feet
TIME OF RELEASE: 0507 Hours	AIRCRAFT COMRSE: 270 Degrees
DURATION: 7 Sec.	WIND VECTOR: 258°/10.9 moh
STATION G.P.A. STATION G.P.A. Stations 1 - 61 Blank	STATION G.P.A. STATION G.P.A. 62 0.2 63 0.3 64 0.2 65 0.2 66 0.4 67 0.6 68 0.6 69 0.7 70 1.3 71 2.0 72 3.1 73 3.1 74 3.5 75 0.6
	Stations 76 - 100 Blank

MATERIAL:		Fuel Oil		FLOW 1	RATE:	226 (app)	CPM
DATE:	11 Ju	ne 1963		SYSIE	X:	FIDAL	
FLIGHT #:	5			AIRSP	RED:	155	Knots
SAMPLE LI	KB:	<u> </u>		ALTIT	TDE:	100	
TIME OF R	ELEASE:	0520	loure	AIRCE	APT COURS	1: 270 P	-
DURATION:		**		WIND	vector:	268°/9.2 =	a
STATION	Ģ.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations	1 - 14 DIE	n.K					
15	_						
16 17	0.1						
18	0.2						
19	0.4						
20							
21							
22							
23							
24							
25	3,4						
26 27	4.2						
27 28 29	0.2						
29	č.1						
	30 - 100 1	Rlank					

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والمراسطين ويمر والموري كالله يتأله والإواليديقال يتأثه والأواليون والمراط والمراط ومواطء ومستطوه طبه تناف المورد والمراط والم

AATERIAL: Fuel 011	FLOW RATE:	NA NA
DATE: 11 June 1963	SYSTEM:	FIDAL
FLIGHT #: 6	AIRSPEED:	MA
SAMPLE LINE: A	ALTITUDE:	100 Feet
TIME OF RELEASE: 0522 Hour	AIRCRAFT COU	RSE: 270 Degrees
DURATION: HA	WIND VECTOR:	268°/9,2 mph
STATION G.P.A. STATION G.P.	A. STATION G.P.A.	STATION G.P.A.
Stations 1 - 63 Blank	64 0.2 65 0.6 66 0.5 67 0.3 68 0.4 69 0.7 70 0.9 71 1.4 72 2.4 73 3.6 74 1.4 75 1.0 76 0.0	
	Stations 77 - 1	00 Blank

MATERIAL: Fuel Oil		FLOW RATE:	ĸ	<u> </u>		
DATE: 11 June 1963		SYSTEM:	PIDA	L		
PLIGHT #: 8		AIRSPEED:	XA.	·—·—		
SAMPLE LINE: A		ALTITUDE:		100	<u> Feet</u>	
TIME OF RELEASE: 0553	Hours	AIRCRAFT O	COURSE:	270	Degrees	
DURATION: NA		WIND VECTO	XR: <u>26</u>	2°/5.4 =	<u>ph</u>	
STATION G.P.A. STATION	G.P.A.	STATION G.P.	.Α	STATION	G.P.A.	
Stations 1 - 17 Blank 18	0.1		-			
19						
20						
21						
	0.4					
23	0.7					
24	0.6					
25	0.9					
26	1.3					
27	2.3					
28						
29						
30						
31	0.4					
32						
33						
34	- • -					
35						
	36 - 100	Blank				

70 24 4 23 5 12 12 12 12 12 12 12 12 12 12 12 12 12	
	1 1 1 1 1 1 1 1 1 1

DATE: 11 June 1963 SYSTEM: FIDAL FLIGHT #: 9 AIRSPRED: NA SAMPLE LINE: A ALTITUDE: 100 Feet TIME OF RELEASE: 0555 Hours AIRCRAFT COURSE: 276 Degrees DURATION: NA WIND VECTOR: 262°/5,4 mph STATION G.P.A. STATION G.P.A. STATION G.P.A. STATION G.P.A. Station 1 - 71 Blank 72 0.4 73 1.2 74 1.2 75 1.4 76 1.7 77 2.7 78 2.9 79 2.5 80 3.3 81 1.2 82 1.0 83 1.3 84 0.6 85 0.6 86 0.4 87 0.2 Station 88 - 100 Station 88 - 100	MATERIAL:	Fuel Oil		FLOW	RATE:	NA.	
SAMPLE LINE: A ALTITUDE: 100 Feet TIME OF RELEASE: 0555 Hours AIRCRAFT COURSE: 270 Degrees DURATION: NA WIND VECTOR: 262°/5,4 mph STATION G.P.A. STATION G.P.A. STATION G.P.A. STATION G.P.A. Station 1 - 71 Blank 72 0.4 73 1.2 74 1.2 75 1.4 76 1.7 77 2.7 78 2.9 79 2.5 80 3.3 81 1.2 82 1.0 83 1.3 84 0.6 85 0.6 86 0.4 87 0.2 Station 88 - 100	DATE: 11 J	lune 1963		SYSTE	:M:	PIDA	<u>1</u>
TIME OF RELEASE: 0555 Hours AIRCRAFT COURSE: 279 Degrees DURATION: NA WIND VECTOR: 262°/5,4 mph STATION G,P,A. STATION G,P,A. STATION G,P,A. STATION G,P,A. Station 1 - 71 Blank 72 0.4 73 1.2 74 1.2 75 1.4 76 1.7 77 2.7 78 2.9 79 2.5 80 3.3 81 1.2 82 1.0 83 1.3 84 0.6 85 0.6 86 0.4 87 0.2 Station 88 - 100	PLIGHT #:	9		AIRSI	PRED:	NA	
DURATION: NA WIND VECTOR: 262°/5.4 mph STATION G.P.A. STATION G.P.A. STATION G.P.A. STATION G.P.A. Station 1 - 71 Blank 72 0.4 73 1.2 74 1.2 75 1.4 76 1.7 77 2.7 78 2.9 79 2.5 80 3.3 81 1.2 82 1.0 83 1.3 84 0.6 85 0.6 86 0.4 87 0.2 Station 88 - 100	SAMPLE LINE:	Δ		ALTI	TUDE:1	00	Teet
STATION G.P.A. STATION G.P.A. STATION G.P.A. STATION G.P.A. Station 1 - 71 Blank 72 0.4 73 1.2 74 1.2 75 1.4 76 1.7 77 2.7 78 2.9 79 2.5 80 3.3 81 1.2 82 1.0 83 1.3 84 0.6 85 0.6 86 0.4 87 0.2 Station 88 - 100	TIME OF RELEASE:	0555	Hours	AIRCI	eaft course:	270	Degrees
Station 1 - 71 Blank 72 0.4 73 1.2 74 1.2 75 1.4 76 1.7 77 2.7 78 2.9 79 2.5 80 3.3 81 1.2 82 1.0 83 1.3 84 0.6 85 0.6 86 0.4 87 0.2 Station 88 - 100	DURATION:	NA		WIND	VECTOR:	262°/5.4	mph
Station 1 - 71 Blank 72 0.4 73 1.2 74 1.2 75 1.4 76 1.7 77 2.7 78 2.9 79 2.5 80 3.3 81 1.2 82 1.0 83 1.3 84 0.6 85 0.6 86 0.4 87 0.2 Station 88 - 100	STATION _G,P,A,	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
74 1.2 75 1.4 76 1.7 77 2.7 78 2.9 79 2.5 80 3.3 81 1.2 82 1.0 83 1.3 84 0.6 85 0.6 86 0.4 87 0.2 Station 88 - 100	Station 1 - 71 B1	enk				72	0.4
75 1.4 76 1.7 77 2.7 78 2.9 79 2.5 80 3.3 81 1.2 82 1.0 83 1.3 84 0.6 85 0.6 86 0.4 87 0.2 Station 88 - 100							
76 1.7 77 2.7 78 2.9 79 2.5 80 3.3 81 1.2 82 1.0 83 1.3 84 0.6 85 0.6 86 0.4 87 0.2 Station 88 - 100							
77 2.7 78 2.9 79 2.5 80 3.3 81 1.2 82 1.0 83 1.3 84 0.6 85 0.6 86 0.4 87 0.2 Station 88 - 100						. •	- • •
79 2.5 80 3.3 81 1.2 82 1.0 83 1.3 84 0.6 85 0.6 86 0.4 87 0.2 Station 88 - 100							
80 3.3 81 1.2 82 1.0 83 1.3 84 0.6 85 0.6 86 0.4 87 0.2 Station 88 - 100						78	2.9
81 1.2 82 1.0 83 1.3 84 0.6 85 0.6 86 0.4 87 0.2 Station 88 - 100						79	2.5
82 1.0 83 1.3 84 0.6 85 0.6 86 0.4 87 0.2 Station 88 - 100						80	3.3
83 1.3 84 0.6 85 0.6 86 0.4 87 0.2 Station 88 - 100							
84 0.6 85 0.6 86 0.4 87 0.2 Station 88 - 100						82	1.0
85 0.6 86 0.4 87 0.2 Station 88 - 100						83	1.3
86 0.4 87 0.2 Station 88 - 100							
87 0.2 Station 88 - 100						_	
Station 88 - 100							
						Station	88 - 100 Blank

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PIDAL PLIGHT DATA

NOZZLE TYPE: U5070 DATE FLOWN: 15 June 1963 CONFIGURATION: Wing tanks only LIQUID SPRAYED: Fuel Oil

	PTA NK	¥d ≃	PRESSURE PSI	FLOW RATE GPM	REMARKS
RUN #1	Left	1400	22-21	78-77	
Knots	į	;	;	•	
Alasiers, 100-100	1		26.97	89-86	
TIME SPRAYED: 5 Secs.	Kight		23-27	200	
2 × × × × × × × × × × × × × × × × × × ×	left	1400	23.5	81	
Knots AIRSPEED: 160-162	Ctr	-	:	1	
TIME SPRAYED: 10 Secs.	Right	:	31-32	92-93	
DIW #3	1067	1400	20	74	
Knots	3		1	•	
CT-TCT - and revity	1		35	78	
TIME SPRATEU: 7 SECB	Right				
RUN #4	left	1400	20-22	74-78	
AIRCPER). 140 Voote	Crr	1	1	-	
	Right		30-31	91-92	
RUN #5	left	1400	23-21.5	18-77	
Knots AIRSPEED: 160-159	Ctr		1		
TIME CERANED. 10. C.	01.74		32-31	93-92	
CENERAL REMARKS: 1.	10 Runs		Both tanks functi	Both tanks functioned on all runs.	

10 kuns riown. Both tanks functioned on arr temp. Ann lith pass attempted, right tank failed to prime. Tachometer removed from right tank. 3.5. CENERAL REMARKS:

在中间,这种情况,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,

MATERIAL: Fuel Oil		FLOW RAT	TE:	164 (app)	GPM
DATE: 15 June 1963		SYSTEM:	PID	AL	
FLIGHT #: 1		AIRSPEE	D:	160	Knots
SAMPLE LINE: A		ALTITUD	E:1	.00	Feet
TIME OF RELEASE: 0451	Hours	AIRCRAF	T COURSE:	270	Degrees
DURATION:5	Sec.	WIND VE	CTOR:		
STATION G.P.A. STATION Stations 1 - 70 Blank	G.P.A.	71 72 73 74 75 76 77 78 79 80 82 82 82 83 84	0.8 1.9 1.8 1.4 0.6 0.6 1.0 1.7 1.1 0.4 0.4 0.2 0.1	STATION	G.P.A.
		Stations	-	Blank	

26.9 26.9 99 , 00 G 0 0 . 14 1 150 15.1 25.9 200 45.7 25.7 1 K ġ q • 75 11 1 ĸ 3 . . :::

Alice of the second of the seco

MATERIAL: Fuel Oil		FLOW RATE:	173 (app)	GPM
DATE: 15 June 1963		SYSTEM:	FIDAL	
FLIGHT #: 2		ATREPERD:	160	Knote
SAMPLE LIME: A		ALTITUDE:	100	Feet
TIME OF RELEASE: 0453	Hours	AIRGRAFT COU	RSE: 270	Degrees
DURATION: 10	Sec.	WIND VECTOR:		
STATION G.P.A. STATION	G.P.A.	STATION G.P.A.	STATION	G.P.A.
Stations 1 - 20 Blank 21	0.1	32,47-7 313 (41)		
22	0.1			
23				
24	1.8			
25	1.6			
26				
27				
28				
29				
30				
	0.9			
32	•			
33				
34				
35				
36				
37				
	0.1			
	39 - 1 00	Blank		

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MATERIAL: Fuel	011		PLOW RATE:_	158	CPH
DATE: 15 Jun	1963		SYSTEM:	FIDAL	
FLIGHT #: 3			AIRSPEED:	152	Knots
SAMPLE LINE: A			ALTITUDE:	100	Pest
TIME OF RELEASE:	0510	Hours	AIRCRAFT CO	URSE: 270 I	erres
DURATION:	8	Sec.	WIND VECTOR	··	
STATION G.P.A.	STATION	G.P.A.	STATION G.P.A	. STATION	G.P.A.
			53 0.2 54 0.2 55 0.2 56 0.0 57 0.2 58 0.2 59 0.3 60 0.3 61 0.3 62 0.2 63 0.2		
	46 47 48 49	0.3 0.2 0.1 0.2 0.2	64 0.4 65 0.4 66 0.5 67 0.5 68 0.7 69 0.4 70 0.8 71 0.8 72 1.2 73 2.2 74 2.7 75 0.1		

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MATERIAL: Fu	1 011	FLOW RATE:	166 (app) GPM
DATE: 15	June 1963	SYSTEM: FI	DAL
FLIGHT #:	4	AIRSPEED:	160 Enote
SAMPLE LIME:		ALTITUDE:	160 Feet
TIME OF RELEASE:_	0512 Hours	AIRGRAPT COURS	BE: 270 Degrees
DURATION:	NA	WIND VECTOR:_	
STATION G.P.A.	STATION G.P.A.	STATION G.P.A.	STATION G:P.A.
1 0.1 2 0.1			
3 0.1			
4 0.1			
5 0,2			
6 0.2			
7 0.2			
8 0.3			
9 0.3			
10 0.2			
11 0.3 12 0.2			
13 0.3			
14 0.2			
15 1.0			
16 1.0			
17 0.9			
18 0.9			
190 1.0			
20 1.0			
21 1.0			
22 1.6			
23 1.8 24 2.0			
Stations 25 - 10	O Blank		

15.0 24.0 25.1 45.0 25.1 45.0 25.1 45.0 25.1 45.0 25.1 45.0 25.1 45.0 25.1 45.0 25.1 45.0 25.1 45.0 25.1 4 界 22.2 g . (enter and carding

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MATERIAL: Fue	1 011		FL	OW	RATE:	169 (ap	p) GPM
DATE: 15 June	1963				at:		
PLICHT #: 5			AI	rs!	EED:	160	Knots
SAMPLE LINE:	A					_ 150	
TIME OF RELEASE: 05	24	Hours					
DURATION:							
STATION C.P.A.	STATION	G.P.A.	STATI	CRK	G.P.A	QT4TTO	W C D 1
Stations 1 - 20 Blank	x 21	0.4		**		314110	a G.F.A.
	22	0.8					
	23	1.1					
		1.2					
		1.5					
	_	1.7					
		1.1					
		1.4					
		0.8					
	•	0.8					
	31						
		32 - 10	O. Blank				
	ACEC TO THE	. 35 - TO	Obremy				

A COLUMN TO THE PARTY OF THE PA 100 | 14.0 | 16.9 | 91 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 1 60 45.8 25.8 190 001 0-92 0-92 001 ř 3 6-97 0 32 031 3 2 2 34.5 100 **M** 50 9 沿部 g 1 * 2 ۹¤ 7 7

ALAMARAN TALL

HATERIAL: Fuel Q11	FLOW RATE	:XA	
DATE: 15 June 1963	SYSTEM:_	FIDAL	
FLIGHT #: 6	AIRSPEED:	<u>¥4</u>	
SAMPLE LINE:	ALTITUDE:	159	Feet
TIME OF RELEASE: 0531 HOUTS	ADDRAFT	0050.88 : 270	
DURATION: NA	WIND VECT	OR:	
STATION G.P.A. STATION G.P.A.	STATION G.P	.A. STATICE	L.G.P.A.
Stations 1 - 70 Blank		71	0.0
			1.0 1.6
			0.9
			1.1
		76	0.8
			0.8
			1.2
		79	0.8
			0.1
			0.1 8 82 - 100
			Blank

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MATRRIAL: Fue	1 011		FLOW B	ATE:	XA.	
DATE: 15 June	1963		SYSTER	l:	M 1	
FLICHT #: 7			AIRSPI	HRD:	84	
SAMPLE LIME: A	~		ALTIT	#DE:15/		_ lest
TIME OF RELEASE:	0537	Hours	ABROM	MPT COMESE:	270	Perree
DURATION:	- 14		N THE !	VECTOR:		
STATION G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 34 Blan	ık		33	0.0		
			56 57			
			57 58	0.1		
			59			
			.60			
			61			
			62			
			63	0.2		
			64	0.1		
			65			
			66	0.7		
				0.9		
			68 69	1.0		
			7 0			
			70 71			
				missing		
				1.7		
			74			
			75	0.2		
			76			
			Statione	77 - 100 I	31 ank	

Total 11.4+

100 14.1 14.3 180 150 16.1 15.1 19 100 16.1 15.4 19 100 16.0 16.0 46 0:42 1-42 FO 15.5 15.8 TH 113 -. ţ, g d 1 . 2 ¢ The set to the second 7.

MATERIAL:	Fuel Oil		FLOW RATE:	XA.	
DATE:	15 June 1963		System:	FIDAL	
FLIGHT #:			AIRSPEED:	XA	
SAMPLE LINE:	Α		ALTITUDE:	150	Peet
TIME OF RELEASE	: 0549	Hours	AIRCHAFT COUR	E: 270	Pearsos
DURATION:	NA.		WIND VECTOR:		
STATION G.P.A.	STATION	G.P.A.	STATION G.P.A.	STATIO	N G.P.A.
Stations 1 - 10	Blank				
11 0.1					
12 0.3					
13 0.5 14 0.3					
15 0.3					
16 0.4					
17 0.5 18 0.5					
19 0.7					
20 1.4 21 1.3					
22 1.5					
23 2.1					
24 2.1 25 0.9					
26 0.0					
Stations 27 -	100 Blank				

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MASS MEDIAN DIAMETER

DATE: 15 June 1963	SPREAD FACTOR: 6.0
FLIGHT NO: 9	CONVERSION FACTOR: 2.5
SAMPLE LINE:C	PAPER: Kromekote, white
FLOW RATE: NA	MATERIAL: Fuel 011
	SYSTEM PIDAL

DROP #	SIZE	STA.	DROP #	SIZE
1	5800			 _
5	4200*			
4	4000			
6	3900			
3	3800	1	1	75 Microns
2	3700			(smallest)
7	3600			-
8	3500			
9	3400			
11	3300			
10	3 200			
	1 5 4 6 3 2 7 8 9	1 5800 5 4200* 4 4000 6 3900 3 3800 2 3700 7 3600 8 3500 9 3400 11 3300	1 5800 5 4200* 4 4000 6 3900 3 3800 1 2 3700 7 3600 8 3500 9 3400 11 3300	1 5800 5 4200* 4 4000 6 3900 3 3800 1 1 2 3700 7 3600 8 3500 9 3400 11 3300

Max. Sph. Dia. =
$$\frac{5800}{6.0}$$
 = 966.7 Microns

Min. Sph. Dia.
$$\approx \frac{75}{6} = 12.5$$
 Microns

MATERIAL:	Fuel (011	·	FLOW 1	RATE:	NA NA	
DATE:	15 June	1963		SYSTE	K:	FIDAL	
FLIGHT #	:9			AIRSP	BBD:	NA .	
SAMPLE L	INE: C			ALTIT	UDE:	150	Feat
TIME OF	RELEASE:	0607	Hours	AIRCR	AFT COUR	SE: 360	Degrees
DURATION	:	NA		WIND	vector:_		
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATIO	N G.P.A.
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	0.3 0.2 0.4 0.4	26 27 28 29 30 31 32 33 34 35 Stations	1.0 1.1 1.0 0.8 0.4 0.4 0.7 0.4	Blank			

MASS MEDIAN DIAMETER

DATE: 15 June 1963	SPREAD FACTOR: 6.0
PLIGHT #: 10	CONVERSION FACTOR: 2,5
SAMPLE LINE:C	PAPER: Kromekote, white
FLOW RARE: NA	MATERIAL: Fuel Oil
	SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
75	1	4400			<u> </u>
73	2	3900*			
72	7	3800			
73	3	3700			
73	4	3600			
73	6	3500			
71	10	3300			
73	5	3200	51	1	100 Microns
72	8	3100			(smallest)
72	9	3000			
72	11	2900			

MMD = Spot D Max = 3900 = 260.0 Microns
Spread Factor x Con. Factor 6.0x2.5

Max. Sph. Dia. = $\frac{4400}{6.0}$ - 733.3 Microns

Min. Sph. Dia. = $\frac{100}{6.0}$ = 16.7 Microns

MATERIAL: Fu	el Oil	FLOW	RATE:	NA	
DATE: 15 Jun	e 1963	SYSTE	M:	PIDAL	
FLIGHT #:	10	ALRSP	RED:	NA NA	
SAMPLE LINE:	<u>c</u>	ALTIT	UDE:	150	Feet
TIME OF RELEASE:	0609 Bours	AIRCR	AFT COURS	SE:360	Degrees
DURATION:	NA.	WIND	VECTOR:		
	STATION G,P,A.	STATION	G.P.A.	STATION	
Stations 1 - 50 Bla	ank	51 52	0.2	Stations	76 - 100 Blank
		53	0.2		
		53 54	0.1		
		55			
		56			
		57			
		58			
		59 6 0	0.2		
			ί. 3		
			0.3		
		63			
		64	0.3		
		65	0.3		
		66	0.4		
		67	0.3		
		68	0.3		
		69 70	0.0 0.2		
			0.2		
			0.2		
			0.2		
		74			
		75	0.1		

THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN T 1 1 1 1 6 age 1763 組 190 d 部第 77 ģ * 3 _____ • -2 2 3 7

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FIDAL FLIGHT DATA

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U5070 NOZZLE TYPE: LIQUID SPRAYED: Fuel 041 CONFIGURATION: Wing tanks only DATE FLOWN: 16 June 1963

	TANK	R.F.	PRESSURE PSI	GPH PLOW RATE	TREMARKS
RUN #1	Left	1900	97	108	
Knots AIRSPEED: 176-174	Ctr		1	-	
TIME SPRAYED: 8 Secs.	Right		+0\$	115	
RUN #2	Left	18-1900 39-60	39-40	101-102	
AIRSPEED: 163 Knots	Ctr	:	•	;	
TIME SPRAYED:11 Secs.	Right	-	41	103	
GENERAL REMARKS: 1 1	O Sprav ring made	open sur			

10 Spray runs made.
Pitch setting on fan had been advanced to 31 and left tank would only feather after about a 10 second delay.
Passes #6 through #10 were flown with right tank only.

MATERIAL:	Fuel Oil			FLOW RATE	:223	GPM
DATE:	16 June 196	3		SYSTEM:	FIDAL	
FLIGHT #:	1			AIRSPEED:	175	Knots
SAMPLE L	INE: D			ALTITUDE:	150	Feet
TIME OF I	RFLEASE: 0500	<u> </u>	Hours	AIRCRAFT	COURSE: 225	Degrees
DURATION	:8_		Sec.	WIND VECT	OR:	
						. .
	$\begin{array}{cccc} G.P.A. & ST. \\ \hline 1 - 10 & Blank \end{array}$		G.P.A.	STATION G.P	- 100 Blank	G,P,A,
Stations	1 - 10 Blank			Scattons JI	- IOO BIRILK	
11	0.4					
12						
13						
14						
15	0.3					
16	0.2					
17	0.7					
18	1.1					
19	C.8					
20	0.4					
21	0.3					
22	0.7					
23	1.1					
24						
25	1.3	47	0.1			
26	2.0	48	0.1			
27		-				
28		5 0	0.2			
Stations	29 - 46 Blank					

يم. بالمدين بمدينة والماء والمعاطفة والماء وديارة ويكلم بمدين ما الماء

MATERIAL:	Fuel Oil		PLON	RATE:	205	GPH
DATE:	16 June 1963		SYST	DK: FT	DAT.	
FLIGHT #:	2		AIRSI	PEED:	163	Knot s
SAMPLE LIME:	<u>D</u>		ALTI	TUDE:	150	<u> Peet</u>
TIME OF RELEA	AE: 0503	Bours	AIRG	raft course	: 225 P	152001
DURATION:	11	Sac.	MIND	VECTOR:		
STATION G.P.	A. STATIO	N G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 -	50 Blank	······································	51	9.1	76	0.9
			52	0.1	77	0.1
			53	9.1	Stations	
			54	9.1		Blank
			55	9.1		
				0. 0		
			57			
				0.2		
				0.2		
				0.1		
			61	0.1		
			62	0.1		
			63	0.2		
				0.3		
				0.4		
				0.3		
				0.8		
			68	1.2 1.1		
			69 70			
				- • •		
			71	No sampl	•	
				1,0	=	
				1.5		
				1.5		
			/3	1.5		

hater ial	· Pu	el 011		FLOW RATE:	NA NA	
DATE:	16 J	une 1963		SYSTEM:	PIDAL	·····
FLIGHT #	:	3		AIRSPEED:		
Sample L	. 110E :	D		ALTITUDE:	150	70qt
TIME OF	release:	9517	iours	AIRCRAFT OOURS	R: 225	POSTOR
DURATION	l:	<u> </u>		WIND VECTOR:	~, 	
STATION	G.P.A.	STATION	G.P.A.	STATION G.P.A.	SEASIO	M Grzia.
	0.2	26	1.1	Stations 51 - 100	Blank	
2	0.2	2/	1.3			
	0.2	Stations	28 - 48	Blank		
	0.1					
	0.1					
	0.3					
	0.2					
	0.3					
	0.4					
10 11	0.2 0.1					
12	0.1					
	0.2					
	0.5					
	0.7					
	0.4					
	0.6					
18	0.3					
19	0.9					
20	0.7					
21	0.5					
22	0.4					
-	0.7					
	0.6		0.0			
25	1.3	5 0	0.1			

150 14.3 15.4 15.4 11.0 11.0 11.0 11.0 11.0 11.0 11.0 11	Manage of the Control
	P

MATERIAL:	Fuel Oil	PLOW RATE:	
DATE: 16	June 1963	SYSTEM:	FIDAL
FLIGHT #:	4	ATROPEED:	ж
SAMPLE LINE:_	D	ALTITUDE:	150 Feet
TIME OF RELEASE	BE: 0520 Hours	AIRCRAFT COURS	E: 225 Degraes
DURATION:		WIND ARCIOK:	
STATION C.P.	A. STATION G.P.A.	STATION G.P.A.	STATION G.F.A.
Stations 1 -	50 Blank	51 0.2	
		52 0.1	
		53 0.3	
		54 0.2	
		55 0.2 56 0.3	
		57 0.4	
		58 0.4	
		59 0.2	
		60 0.2	
		61 0.2	
		62 0.4	
•		62 0.4 63 0.7	
_		64 1.2	
		65 0.9	
		66 1.0	
		67 1.1	
		68 1.0	
		69 1.4	
		7 0 2 1	
		71 1.8	
		72 0.7	
		73 0.6	
		Stations 74 - 10	0 Blank

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HATERIAL:	I	ruel 011			eron e	LATE:_	N	A	
DATE:	16 Ju	ne 1963			SYS TE	(:	FIDA	L	
FLIGHT #:	5				AIRSP	ED:_	N	<u> </u>	
SAMPLE LI	NE: D				ALTIT	DB:	150		Pest
TIME OF R	BL ease :	0536	Hours		AIRCR	AFT CO	WRSE:_	225	Degrees
DURATION:		NA.			WIND '	VECTO	l:		
STATION	G.P.A.	STATION	G.P.A.	STA	TION	G.P.	A ,	STATION	G.P.A.
Stations	1 - 11 B1	STATION ank							
12									
13	0.5								
24	0.2								
15 16	0.2								
16	0.1								
17	0.2								
18									
19	- • •								
20									
21	0.4								
22	1.3								
23 24	0.7								
25	0.7								
26	0.6								
27	0.0								
28									
29									
30									
31									
	32 - 100	Blank							

) ere 20 24.1 24.1 94 130 24.6 15.1 94 320 24.6 15.1 94 36.6 15.1 13.8 92 36.6 15.0 10.0 Limited, or in the control of the co 27 5 24 2 88 1 1 • 03:1 3-3agr ï 3 2 ٦'n 12 A 1 1 1 1 1 -----*** - -5 ; n. 1840

MATERIAL: Fuel 011	FLOW RATE: NA	
DATE: 16 June 1963	SYSTEM: FIDAL	
FLIGHT #:6	AIRSPEED: NA.	
SAMPLE LINE: D	ALTITUDE: 150	Feet
TIME OF RELEASE: 0538 Hours	AIRCRAFT COURSE: 225	Degrees
DURATION: NA	WIND VECTOR:	
STATION C B A STATION C B A	STATION OR A STATIO	N CPA
STATION G.P.A. STATION G.P.A. Stations 1 - 55 Blank	36 0 1	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Stations I - 35 Blank	56 0.1 57 0.4	
	58 0.2	
	59 0.1	
	60 0.2	
	61 0.2	
	62 0.2	
	62 0.3	
	64 0.4	
	65 0.3	
	66 0.3	
	67 0.4	
	68 0.8	
	69 0.7	
	70 0.7	
	71 0.5 72 0.4	
	72 0.4	
	73 0.4 74 0.8	
	75 0.5	
	76 0.5	
	77 0.5	
	Stations 78 - 100 Blank	

120 14 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
g g g g g g g g g g g g g g g g g g g	The state of the s
g	
	1 2 3 3 4 3 4 5 5 5 5 5 5 5 5 5 5
	8

MATERIAL: Fuel Oil	FLOW RATE: NA
DATE: 16 June 1963	SYSTEM:FIDAL
FLIGHT #: 7	AIRSPEED: NA
SAMPLE LINE:D	ALTITUDE: 150 Fact
	AIRCRAFT COURSE: 225 Degrees
DURATION: NA	WIND VECTOR:
STATION G.P.A. STATION G.P.A. Stations 1 - 14 Blank	A, STATION G,P,A, STATION G,P,A,
15 0.1 16 0.4 17 0.2 18 0.5 19 0.4 20 0.7 21 0.7 22 1.4 23 0.9 24 1.2 25 1.0 26 0.3 27 0.4 Stations 28 - 100 Blank	

MATERIAL: Fuel Oil		FLOW RAT	TE:	NA	
DATE: 16 June 1963		SYSTEM:		FIDAL	
FLIGHT #: 8		AIRSPERI	D:	NA	
SAMPLE LINE: D	<u>_</u>	ALTITUD	E:1	50	Feet
TIME OF RELEASE: 0555 H	lours	AIRCRAF	T COURSE	: 225	Degrees
DURATION: NA		WIND VE	CTOR:		
STATION G.P.ASTATION	G.P.A.	STATION G	.P.A.	STATION	G.P.A.
Stations 1 - 65 Blank		66 0 67 0 68 0 69 0 70 0 71 0 72 0 73 74 0 75 0 76 0 77 7	5 9 6 6 3 5 3 4 6 6		
		Stations &		Blat	

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MASS MEDIAN DIAMETER

DATE: 16 June 1963	SPREAD FACTOR: 6.0
FLIGHT #: 9	CONVERSION FACTOR: 2.5
SAMPLE LINE: B	PAPER: Kromekote, white
FLOW RATE: NA	MATERIAL: Fuel oil
	SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
26	1	4200			
20	5	36 00			
22	4	35 00	50	1	100 Microns
23	3	33 00*			(smallest)
20	6	3100			•
23	2	3000			
17	7	29 00			
17	8	2800			
24	9	2700			

Max. Sph. Dia. = $\frac{4200}{6.0}$ = 700.0 Microns

Min. Sph. Dia. = $\frac{100}{6.0}$ = 16.7 Microns

mater ial	: <u>Fu</u>	el Oil		FLOW RATE:	NA .	
DATE:	16	June 1963		SYSTEM: FI	DAL	
FLIGHT #	:	9		AIRSPEED:	NA .	
SAMPLE L	INE:	В		ALTITUDE: 15	0	Feet
TIME OF	RELEASE:	0615	Hours	AIRCRAFT COURSE:	315	Degrees
DURATION	i:	N A		WIND VECTOR:		
STATION	G.P.A.	STATION	G.P.A.	STATION G.P.A. Stations 51 - 100 B	STATION	G.P.A.
1 2	0.4	26 27	0.2	Stations 51 - 100 B	lank	
	0.4	28				
	0.3	29				
	0.4	3 0				
	C.5	31	0.1			
7	ა.3	32 33	J.2			
8	ე.3	33	ા.1			
9	J.3	34	0.1			
	0.3	35				
	0.3	36				
	0.3	37				
	0.3	38	J. .3			
	0.3 0.2	39	. 5			
16		40 41	5.2			
17	0.2	42	5.4			
18	J. 2	43	3.3			
	3.2		2.5			
	2.2	45				
	0.3	46	c.2			
22	∜.2	47	0.3			
23	7 2	48	5.4			
24	0.2	4.9	0.3 0.3			
25	0.2	50	2.3			

MASS MEDIAN DIAMETER

DATE: 16 June 1963	SPREAD FACTOR: 6.0
FLIGHT #: 10	CONVERSION FACTOR: 2.5
SAMPLE LINE: B	PAPER: Kromekote, white
FLOW RATE: NA	MATERIAL: Fuel Oil
	SYSTEM: FIDAL

STA,	DROP #	SIZE	STA.	DROP #	SIZE
69		4500			
69	3	3400*			
70	4	33 00			
72	1	3200	51	1	100 Microns
67	5	3100			(smallest)
67	6	3000			
67	7	2 9 00			
64	8	28 00			
66	9	2700			

MMD =
$$\frac{\text{Spot D Max}}{\text{Spread Factor x Ccn. Factor}} = \frac{3400}{6.0 \times 2.5} = 226.7 \text{ Microns}$$

Max. Sph. Dia. =
$$\frac{4500}{6.0}$$
 = 750.0 Migrons

Min. Sph. Dia. =
$$\frac{100}{6.0}$$
 = 16.7 Microns

MATERIAL: Fuel Oil	FLOW RATE: NA
DATE. 16 June 1963	SYSTEM: FIDAL
FLIGHT " 10	AIRSPEED: NA
SAMPLE LINE: B	ALTITUDE: 150 Feet
TIME OF RELEASE: 0618 Hours	AIRCRAFT COURSE: 315 Degrees
DURATION: NA	WIND VECTOR:
STATION G.P.A. STATION G.P.A.	STATION G.P.A. STATION G.P.A.
Stallons 1 - 50 Blank	51 0.3 52 0.3 53 0.4 54 0.4 55 0.4 56 0.4 57 0.4 58 0.4 59 0.4 60 0.2 61 0.3 62 0.3 63 0.2 64 0.2 65 0.2 66 0.2 67 0.4 68 0.2 69 0.2 57 0.4 58 0.4 59 0.4 50 0.2 51 0.2 52 0.3 53 0.2 54 0.2 55 0.2 56 0.2 57 0.4 58 0.2 59 0.4 59 0.4 50 0.2 51 0.2 52 0.3 53 0.2 54 0.2 55 0.2 56 0.2 57 0.4 58 0.2 59 0.4 59 0.2 50 0.2 51 0.2 52 0.3 53 0.2 54 0.2 55 0.2 57 0.4 58 0.2 59 0.2 50 0.2 51 0.2 52 0.3 53 0.2 54 0.2 55 0.2 57 0.4 58 0.2 59 0.2 50 0.2 51 0.2 52 0.2 53 0.2 54 0.2 55 0.2 57 0.4 58 0.2 59 0.2 50 0.2

MASS MEDIAN DIAMETER

DATE: 20 June 1963	SPREAD FACTOR: 6.0
FLIGHT #: 2	CONVERSION FACTOR: 2.5
SAMPLE LINE: A	PAPER: Kromekote, white
FLOW RATE: NA	MATERIAL: Fuel 011
	SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
71	i	5000			
71	2	4 6 00			
71	3	4400			
71	4	4700			
7 0	5	4 0 00 *			
67	6	3700			
68	7	36 00			
67	8	35 00			
7 0	9	3800			
69	10	39 00			
67	11	3300			
67	12	3400			

Max. Sph. Dia. =
$$\frac{5000}{6.0}$$
 = 833.3 Microns

Min. Sph. Dia. =
$$\frac{100}{6.0}$$
 = 16.7 Microns

FIDAL FLIGHT DATA

21 June 63 CONFIGURATION: All tanks DATE FLOWN:

LIQUID SPRAYED: Fuel 011

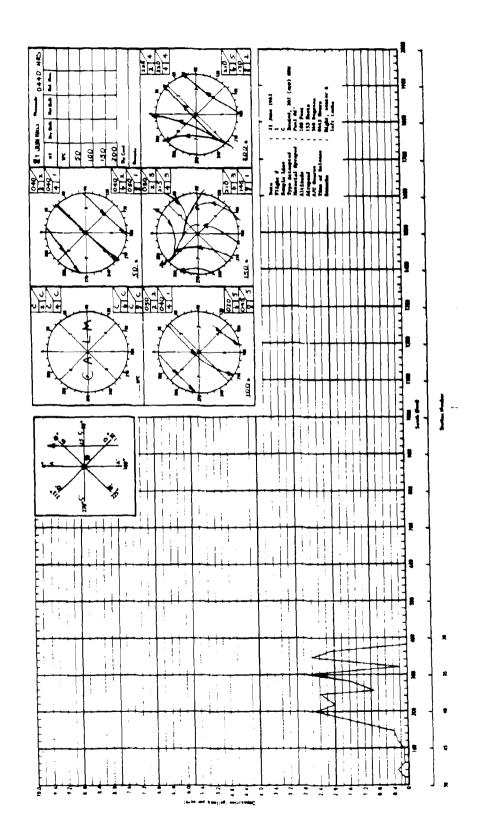
NOZZLE TYPE: U5070

	TANK	RPM	PRESSURE PSI	FLOW RATE GPM	REMARKS
RUN #1	Left	1600	36	86	No data from center tank.
AIRSPEED: 153 Knots	Ctr	-	•	•	
TIME SPRAYED: 7 Secs.	Right		42	104	
RUN #2	Left	1800	39-40	101-102	
AIRSPEED: 160 Knots	Ctr) 		•	
TIME SPRAYED: 7 Secs.	Right		14-94	108-109	

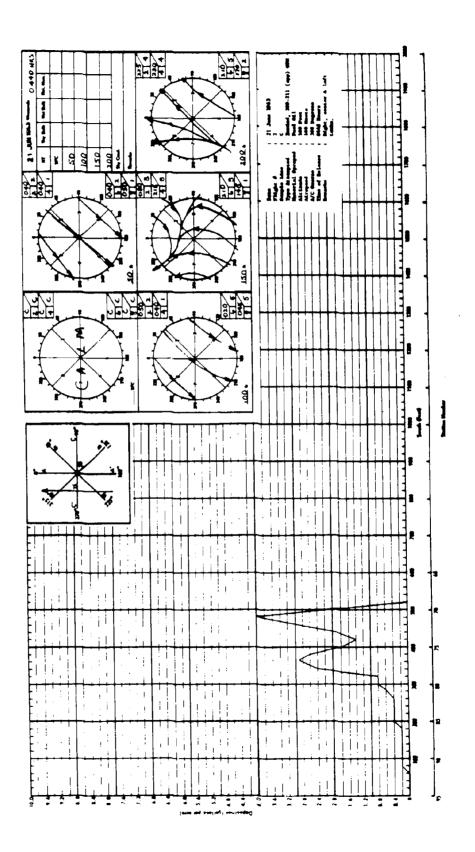
GENERAL REMARKS:

Plane made 9 passes.
On 4th pass center tank did not function.
On 7th pass right tank did not function.
On 9th pass center tank did not function. 1. 3.

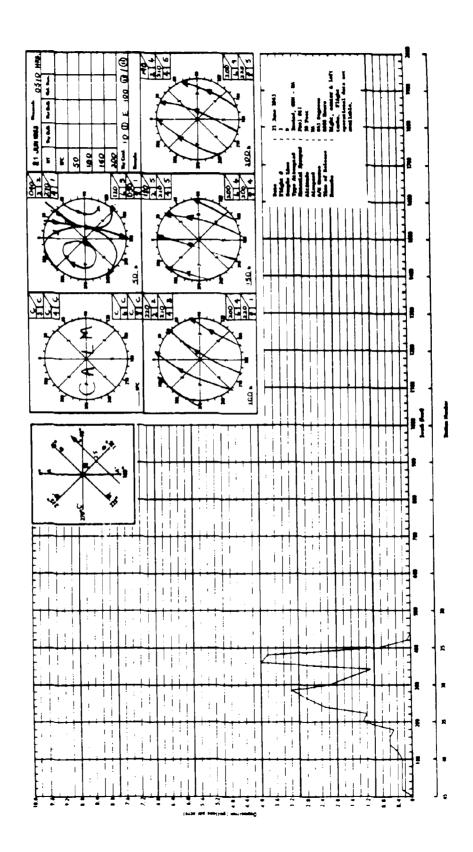
MATERIAL: Fu	iel Oil		FLOW RATE:	202 (ap	p) GPM
DATE: 21	June 1963		SYSTEM:	FIDAL	
FLIGHT #:	1		AIRSPEED:	153	Knots
SAMPLE LINE:	c		ALTITUDE:	100	Feet
TIME OF RELEASE:	0443	Hours	AIRCRAFT COURSE	: 360	Degrees
DURATION:	7	Sec.	WIND VECTOR:		
STATION G.P.A.	STATION	G.P.A.	STATION G.P.A.	STATION	G.P.A.
Stations 1 - 30	Blank		Station 51 - 100 F	Blank	
	3.1	0.0			
	32	0.0 2.1 2.6			
	32	2.6			
	34	0.2			
		2.7			
		1.5			
		0.9			
		2.4			
		2.0			
		2.5			
		1.9			
	4.2	1.0			
	43	0.4			
	44	0.3			
		0.1			
		0.1			
	· -	0.1 0.1			
		0.3			
		0.1			
	5 ü	0.1			



MATERIAL: Fuel Oil	FLOW RA	ATL: 209-	211 (app)	GPH
DATE: 21 June 1963	SYSTEM	:F1	AL	
FLIGHT #: 2	AIRSPE	ED: 10	50	Knots
SAMPLE LINE: C	ALTITU	DE:	100	Feat
TIME OF RELEASE: 0445 Hours	AIRCRA	FT COURSE:	360	Degrees
DURATION: 7 Sec.	WIND V	ECTOR:		
STATION G.P.A. STATION G.P.A.	STATION	G.P.A.	STATION	G.P.A.
STATION G.P.A. STATION G.P.A. Stations 1 - 68 Blank	69	0.0		
	70	2.1		
	71			
	72			
	73			
	74			
	75			
	76	2.6		
	77 78	2.9		
	78 79	2.4		
	80			
	81			
	82 83			
	84			
	85			
	86	0.2		
	86 87	0.2		
	88	0.2		
	89			
	90			
	91			
		92 - 100	Blank	



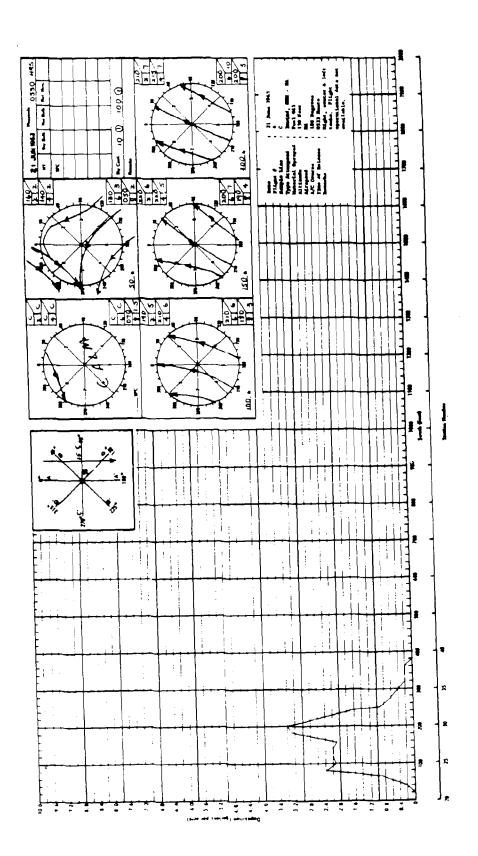
MATERIAL:	Fuel Oil		FLOW RATE:	NA	
DATE:21	June 1963		SYSTEM:	FIDAL	
FLIGHT #:	3		AIRSPEED:	NA	
SAMPLE LINE:	D		ALTITUDE:	50	Feet
TIME OF RELEASE	:0508	Hours	AIRCRAFT COURSE	S: <u>045</u>	Degrees
DURATION:	NA .		WIND VECTOR:		
STATION G.P.A.	STATION	G.P.A.	STATION G.P.A.	STATION	i G.P.A.
Stations 1 - 23	Blank 24	0.1	Stations 45 - 100	Blank	
	25	0.9			
	26	3.8			
	27	4.0			
	28 29	1.1			
	29	1.6			
	30				
	31				
	32	2.8			
	33	2.3			
		1.2			
		1.3			
		0.5			
		0.6			
	_	0.6			
		0.4			
		0.3			
	, -	0.3			
	. –	0.3			
		0.3			
	44	0.3			



MATERIAL: Fuel Oil	FLOW RATE:	NA NA
DATE: 21 June 1963	SYSTEM:	FIDAL
FLIGHT #: 4	AIRSPRED:	NA
SAMPLE LINE: D	ALTITUDE: 50	Feat
TIME OF RELEASE: 0510 Hour	AIRCRAFT COURS	E: 045 Degrees
DURATION: NA	WIND VECTOR:	
STATION G.P.A. STATION G.P	.A. STATION G.P.A.	STATION G.P.A.
Stations 1 - 69 Blank	70 0.1	
	71 0.3	
	72 2.6	
	73 2.2	
	74 2.6	
	75 0.7	
	76 0.5	
	77 1.5	
	78 2.2	
	79 1.2	
	80 0.6	
	81 0.4	
	82 0.2	
	83 0.2 84 0.3	
	85 0.2	
	86 0.1 87 0.2	
	88 0.2	
	89 0.1	
	90 0.2	
	Stations 91 - 10	O Blank

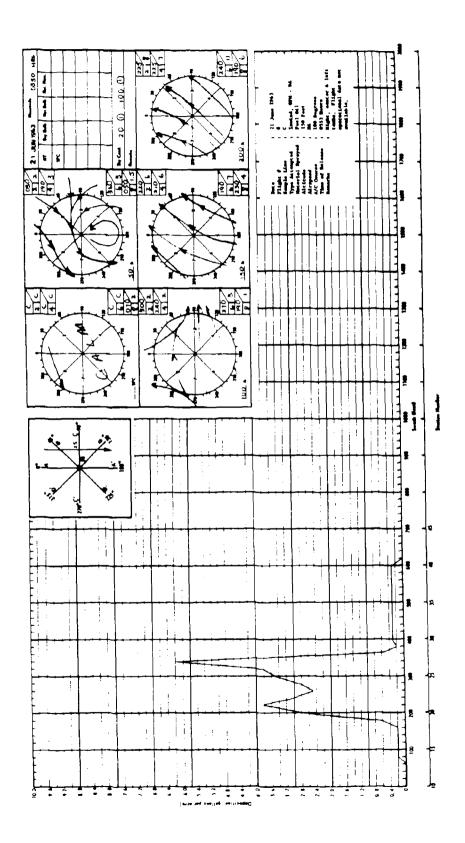
MATERIAL: Fuel 0il	FLOW RATE:	NA
DATE: 21 June 1963	SYSTEM:	FIDAL
FLIGHT #:5	AIRSPEED:	NA
SAMPLE LINE:C	ALTITUDE:	150 Feet
DIME OF RELEASE: 9530 Hours	AIRCRAFT COURSE	: 180 Degrees
DURATION: NA	WIND VECTOR:	
STATION G.P.A. STATION G.P.A.	STATION G.P.A.	STATION G.P.A.
Stations 1 - 64 Blank	64 0.1	7,
	66 0.1	
	67 0.1	
	68 0.4	
	69 0.2	
	70 0.3	
	71 0.6	
	72 1.7	
	73 1.5	
	74 1.5	
	75 1.5	
	76 2.7	
	77 3.2	
	78 3.7	
	79 1.5	
	80 0.9	
	31 0.6	
	8 2	
	8 3 0.1	
	84 0.1	
	Stations 85 - 100	Blank

MATERIAL: Fuel 011		FLOW I	RATE:	NA	
DATE: 21 June 1963		SYSTE	M:	IDAL	
FLIGHT #: 6		AIRSP	BED: NA		
SAMPLE LINE: C		ALTIT	UDE: 150		Feet
TIME OF RELEASE: 0533 H	ours	AIRCR	AFT COURSE:	189	Degrees
DURATION: NA		WIND	VECTOR:		
STATION G. A. STATION	G.P.A.	STATION	G. P. A.	STATION	G.P.A.
Stations 1 - 20 Blank 21	0.0	<u> </u>	41.1		9,,
22					
23	0.9				
24	2.4				
25					
26	2.2				
27	2.2				
28	2.1				
29					
30					
31					
32	-				
33					
34					
35					
36					
37					
37					
	39 - 100	Rlank			
Station	39 - 100	DIGHE			



DATE: 21 June 1963 SYSTEM: FIDAL FLIGHT #: 7 AIRSPEED: NA SAMPLE LINE: C ALTITUDE: 150 Feet TIME OF RELEASE: 0550 Hours AIRCRAFT COURSE: 180 Degrees DURATION: NA WIND VECTOR: STATION G.P.A. STATION G.P.A. STATION C.P.A. STATION G.P.A. Stations 1 - 50 Blank 51 0.0 76 1.9 52 0.2 77 1.8 53 0.0 78 1.3 54 0.2 79 0.4 55 0.2 80 0.4 56 0.2 81 0.4 57 0.0 82 0.3 58 0.1 83 0.2 59 0.2 84 0.2 60 0.2 Stations 85 - 100 61 0.2 Stations 85 - 100 61 0.2 G.S. 63 0.2 64 0.2 65 0.5 66 0.5 67 0.4 68 1.2 69 0.9 70 1.3 71 1.4 72 1.5 73 1.7	MATERIAL: Fuel 011	FLOW RATE:	NA
SAMPLE LINE: C ALTITUDE: 150 Feet TIME OF RELEASE: 0550 Hours AIRCRAFT COURSE: 186 Degrees DURATION: NA WIND VECTOR: STATION G.P.A. STATION G.P.A. STATION G.P.A. Stations 1 - 50 Blank 51 0.0 76 1.9 52 0.2 77 1.8 53 0.0 78 1.3 54 0.2 79 0.4 55 0.2 80 0.4 55 0.2 80 0.4 56 0.2 81 0.4 57 0.0 82 0.3 58 0.1 83 0.2 59 0.2 84 0.2 60 0.2 Stations 85 - 100 61 0.2 60 0.2 Stations 85 - 100 61 0.2 62 0.3 63 0.2 64 0.2 65 0.5 66 0.5 66 0.5 67 0.4 68 1.2 69 0.9 70 1.3 71 1.4 72 1.5 73 1.7 74 1.7	DATE: 21 June 1963	SYSTEM:	FIDAL
TIME OF RELEASE: 0550 Hours AIRCRAFT COURSE: 186 Degrees DURATION: NA WIND VECTOR: STATION G.F.A. STATION G.P.A. STATION G.F.A. STATION G.F.A. Stations 1 - 50 Blank 51 0.0 76 1.9 52 0.2 77 1.8 53 0.0 78 1.3 54 0.2 79 0.4 55 0.2 80 0.4 56 0.2 81 0.4 57 0.0 82 0.3 58 0.1 83 0.2 59 0.2 84 0.2 59 0.2 Stations 85 - 100 61 0.2 Stations 85 - 100 62 0.3 63 0.2 64 0.2 65 0.5 66 0.5 67 0.4 68 1.2 69 0.9 70 1.3 71 1.4 72 1.5 73 1.7 74 1.7	FLIGHT #:7	AIRSPEED:	NA
DURATION: NA WIND VECTOR: STATION G.P.A. STATION G.	SAMPLE LINE: C	ALTITUDE: 150	Peet
STATION G,P,A, STATION G,P,A, STATION G,P,A, STATION G,P,A, Stations 1 - 50 Blank	TIME OF RELEASE: 0550 Hours	AIRCRAFT COURSE:	180 Degrees
Stations 1 - 50 Blank 51	DURATION: NA	WIND VECTOR:	
Stations 1 - 50 Blank 51	STATION G.P.A. STATION G.P.A	, STATION G.P.A.	STATION G.P.A.
53 0.0 78 1.3 54 0.2 79 0.4 55 0.2 80 0.4 56 0.2 81 0.4 57 0.0 82 0.3 58 0.1 83 0.2 59 0.2 84 0.2 60 0.2 Stations 85 - 100 61 0.2 Blank 62 0.3 63 0.2 64 0.2 65 0.5 66 0.5 67 0.4 68 1.2 69 0.9 70 1.3 71 1.4 72 1.5 73 1.7 74 1.7	Stations 1 - 50 Blank	51 6.8	76 1.9
54 0.2 79 0.4 55 0.2 80 0.4 56 0.2 81 0.4 57 0.0 82 0.3 58 0.1 83 0.2 59 0.2 84 0.2 60 0.2 Stations 85 - 100 61 0.2 Blank 62 0.3 63 0.2 64 0.2 65 0.5 66 0.5 67 0.4 68 1.2 69 0.9 70 1.3 71 1.4 72 1.5 73 1.7 74 1.7			77 1.8
55 0.2 80 0.4 56 0.2 81 0.4 57 0.0 82 0.3 58 0.1 83 0.2 59 0.2 84 0.2 60 0.2 Stations 85 - 100 61 0.2 62 0.3 63 0.2 64 0.2 65 0.5 66 0.5 67 0.4 68 1.2 69 0.9 70 1.3 71 1.4 72 1.5 73 1.7 74 1.7			
56 0.2 81 0.4 57 0.0 82 0.3 58 0.1 83 0.2 59 0.2 84 0.2 60 0.2 Stations 85 - 100 61 0.2 Blank 62 0.3 63 0.2 64 0.2 65 0.5 66 0.5 67 0.4 68 1.2 69 0.9 70 1.3 71 1.4 72 1.5 73 1.7 74 1.7			
57 0.0 82 0.3 58 0.1 83 0.2 59 0.2 84 0.2 60 0.2 Stations 85 - 100 61 0.2 Blank 62 0.3 63 0.2 64 0.2 65 0.5 66 0.5 67 0.4 68 1.2 69 0.9 70 1.3 71 1.4 72 1.5 73 1.7 74 1.7			
58 0.1 83 0.2 59 0.2 84 0.2 60 0.2 Stations 85 - 100 61 0.2 Blank 62 0.3 63 0.2 64 0.2 65 0.5 66 0.5 67 0.4 68 1.2 69 0.9 70 1.3 71 1.4 72 1.5 73 1.7 74 1.7		56 0.2	81 0.4
59 0.2 84 0.2 60 0.2 Stations 85 - 100 61 0.2 Blank 62 0.3 63 0.2 64 0.2 65 0.5 66 0.5 67 0.4 68 1.2 69 0.9 70 1.3 71 1.4 72 1.5 73 1.7 74 1.7		57 0.0	82 0.3
60 0.2 Stations 85 - 100 61 0.2 Blank 62 0.3 63 0.2 64 0.2 65 0.5 66 0.5 67 0.4 68 1.2 69 0.9 70 1.3 71 1.4 72 1.5 73 1.7 74 1.7			83 0.2
61 0.2 Blank 62 0.3 63 0.2 64 0.2 65 0.5 66 0.5 67 0.4 68 1.2 69 0.9 70 1.3 71 1.4 72 1.5 73 1.7 74 1.7			
62 0.3 63 0.2 64 0.2 65 0.5 66 0.5 67 0.4 68 1.2 69 0.9 70 1.3 71 1.4 72 1.5 73 1.7 74 1.7			
63 0.2 64 0.2 65 0.5 66 0.5 67 0.4 68 1.2 69 0.9 70 1.3 71 1.4 72 1.5 73 1.7 74 1.7			bish
64 0.2 65 0.5 66 0.5 67 0.4 68 1.2 69 0.9 70 1.3 71 1.4 72 1.5 73 1.7 74 1.7			
65 0.5 66 0.5 67 0.4 68 1.2 69 0.9 70 1.3 71 1.4 72 1.5 73 1.7 74 1.7			
66 0.5 67 0.4 68 1.2 69 0.9 70 1.3 71 1.4 72 1.5 73 1.7 74 1.7			
67 0.4 68 1.2 69 0.9 70 1.3 71 1.4 72 1.5 73 1.7 74 1.7			
69 0.9 70 1.3 71 1.4 72 1.5 73 1.7 74 1.7			
70 1.3 71 1.4 72 1.5 73 1.7 74 1.7		68 1.2	
71 1.4 72 1.5 73 1.7 74 1.7			
71 1.4 72 1.5 73 1.7 74 1.7		70 1.3	
73 1.7 74 1.7		71 1.4	
74 1.7			
73 1.7		74 1.7 75 1.7	

MATERIAL:	Fı	uel 01	1				FLOW	RATE:		NA NA	
DATE:	21 Ju	ine 19	63				SYSTE	DM:		FIDAL	
FLIGHT #:		8					AIRSE	PEED:_		NA	
SAMPLE LI	NE :	С					ALTIT	TUDE : _	150		Feet
TIMB OF R	elrase	:	0553	Hours			AIRCE	RAFT C	OURSE:_	180	Degrees
DURATION:		NA.					WIND	VECTO	R:		
STATION	G.P.A.		STATION	G.P.	Α.	<u> </u>	MOITA	<u>.G.</u> ₽,	Α	STATION	G.P.A.
STATION Stations	1 - 13	Blank	26 27	3.8							
			28	0.6							
			29 30								
			31								
			32 33	0.3							
			33	0.3							
			34								
			35								
			36 37								
			38								
14	0.2		39	0.3							
15	0.2		40	0.3							
16	0,2		Station	41 -	100	Blank					
17											
18 19											
20											
21	3.8										
24	3.L										
23											
24											
25	3.5										



MATERIAL: Fuel Oil	FLOW RATE: NA	
DATE: 21 June 1963	SYSTEM: FIDAL	
FLIGHT #: 9	AIRSPERD: NA	
SAMPLE LINE: D	ALTITUDE: 150	Feet
TIME OF RELEASE: 0610 Hours	AIRCRAFT COURSE: 225	Degrees
DURATION: NA	WIND VECTOR:	
STATION G.P.A. STATION G.P.A.	STATION C.P.A. STATION	ON G.P.A.
Stations 1 - 68 Blank	70 0.1 71 0.7 72 4.1 73 1.7 74 1.5 75 1.3 76 2.0 77 1.5 78 2.1 79 2.3 80 0.2 81 0.0 82 0.1 83 0.1 84 0.1 85 0.1 Stations 86 - 100 Blank	
	Stations 86 + 100 Blank	

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FIDAL FLIGHT DATA

CONFIGURATION: All tanks 29 June 63 DATE FLOWN:

LIQUID SPRAYED: Fuel Oil

NOZZLE TYPE:U5070

	TANK	IRPM	PRESSURE PSI	FLOW RATE GPM	REMARKS:
KUN ≇1	Left		5.0	112	#1 and #4 were only runs recorded.
AIRSPLED: 158 Knots	Gtr		1.5	90	
TIME SPRAYED: 6 Sec	Right	· 	8	0	
RUN #4	Left		87	110	
A I E S P & S D :	Ctr		;	9.0	
TIME SPRAYED:	Right		- +05	112	
	On 1st run	richt	On 1st run right tank did not spray.	A	

GENERAL KENAKKS:

On 1st run right tank did not spray.

After 4th run pilot landed and rephased the tanks.

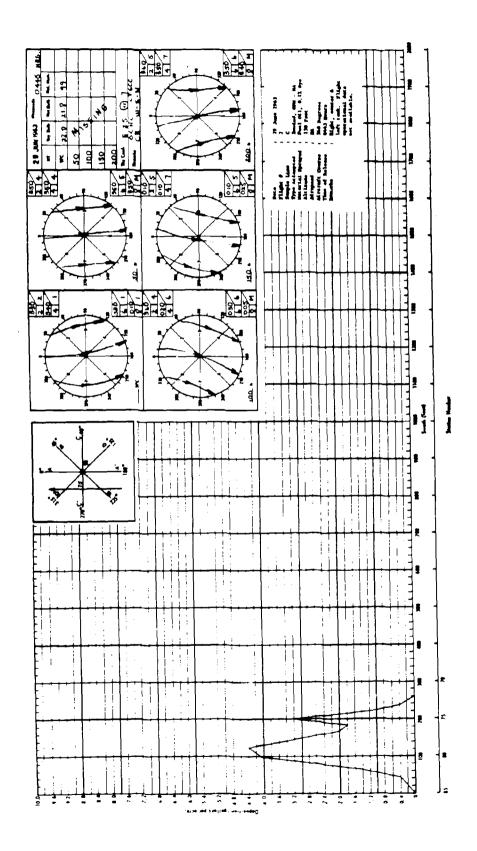
On 6th run center tank quit and did not run again.

Pilot attempted twelve runs in all with left tank quitting on 12th run.

G.P.M. readings are estimated from the prop pitch setting (35° versus 31° for each of the outboard tanks.)

	FLOW RATE:	202 (app)	GPM
963	System:	FIDAL	
	AIRSPEED:	158	Knots
	ALTITUDE:	150	Feet
440 Hour	AIRCRAFT (COURSE: 360	Degrees
Sec	<u>.</u>		
STATION G,P	.A. STATION G.	P.ASTATION	
24 2.0 25 3.4 26 3.0 27 1.9 28 3.0 29 5.6 30 3.5 31 3.1 32 3.1 33 2.1 34 0.4 35 0.4 36 0.1			
	963 440 Hourse Sec. STATION G.P 23 0.1 24 2.0 25 3.4 26 3.0 27 1.9 28 3.0 29 5.6 30 3.5 31 3.1 32 3.1 33 2.1 34 0.4 35 0.4 36 0.1	963 SYSTEM: AIRSPEED: ALTITUDE: 440 Hours AIRCRAFT Sec. STATION G.P.A. STATION G. 23 0.1 24 2.0 25 3.4 26 3.0 27 1.9 28 3.0 29 5.6	SYSTEM: FIDAL AIRSPEED: 158 ALTITUDE: 150 440

MATERIAL: Fuel Oil		FLOW RATE:	NA	
DATE: 29 June 1963		SYSTEM: FI	DAL	
FLIGHT #: 2		AIRSPEED:	NA	
SAMPLE LINE: C		ALTITUDE: 150)	Feet
TIME OF RELEASE: 0443	Hours	AIRCRAFT COURSE:	360	Degrees
DURATION: NA				
STATION G.P.A. STATION	G,P,A,	STATION G.P.A.	STATION	G.P.A.
Stations 1 - 72 Blank			73	•
			74	
			75	
			76	
			77	
			78	
			79	-
			80	
			81	-
			82	
			83	0.2
			-	-
			STATIONS	85 ~ 10 Blan



MATERIAL: Fuel	011		FLOW RATE:	NA NA	
DATE: 29 Ju	ine 1963		SYSTEM:	FIDAL	
FLIGHT #:	3		AIRSPEED:	NA_	
SAMPLE LINE:	<u>c</u>		ALTITUDE:	50	Feet
TIME OF RELEASE:	0458	Hours	AIRCRAFT COURSE:	360	Degrees
DURATION:	NA,				
STATION G.P.A. Stations 1 - 23	STATION	G.P.A.	STATION G,P,A,	STATION	G.≱.A.
	29 30 31 32 33 34 35	1.8 0.7 0.8 0.9			
	37 38 40 41 42 43 44	0.3 0.4 0.3 0.5 0.3 0.3			
24 0 1 25 2.5	48	0.1 0.2 0.2 0.3			

MATERIAL: Fuel Oil	FLOW RATE: 312	(app)	GPM
DATE: 29 June 1963	SYSTEM: FIDAL		
FLIGHT #:4	AIRSPEED: NA		
SAMPLE LINE: C	ALTITUDE: 50		Feet
TIME OF RELEASE: 0500 Hours	AIRCRAFT COURSE:_	360	Degrees
DURATION: NA			
STATION G.P.A. STATION G.P.A.	STATION G.P.A.		
Stations 1 - 73 Blank		76	2.2
		77 78	3.5 2.1
		79	2.0
		80	1.1
		81	3.3
		82	1.6
		83	0.9
		84	0.6
		85 86	0.7 0.3
		87	0.3
		88	0.3
		89	0.4
		90	0.4
		91	0.4
		92	0.4
		93 94	0.1
		94 95	0.1
		96	0.1
		97	0.1
		98	0.0
	74 2.7	99	
	75 2.8	100	0.1

MATERIAL: Fuel	011		FLOW RATE:_	NA	
DATE: 29 J	une 1963		SYSTEM:	FIDAL	
FLIGHT:	5		AIRSPEED:	NA	
SAMPLE LINE:	C		ALTITUDE:	150	Feet
TIME OF RELEASE:	0603 н	our s	AIRCRAFT CO	URSE: 360	Degrees
DURATION:	NA	 -			
STATION G.P.A. Stations 1 - 25	STAT1ON	G.P.A.	STATION G.P.A	. STATION	G,P,A,
	28 29 30 31 32 33 34 35 36 37	1.7 2.7 3.1 2.2 2.2 1.4 1.9 2.2 1.9			
	41 42 43 44 45 46 47 →ĕ 49	0.7 0.7 0.8 0.3 0.1 0.1			

23 © 27 C B NE-5W (10) #1 3 20 JUN 7645 13.0 11. Tright of Principle of Principl 001 001 K 30 905 • वहा 3130 4 007 *•* 11 Τį 1 . 11111 £ , 17 1. , i :11 i Τį 100 1 1.1 \$1,212121

HATERIAL: Fuel Oil	FLOW RATE:	NA_	
DATE: 29 June 1963	SYSTEM:	FIDAL	
PLIGHT #:6	AIRSPEED:	NA	
SAMPLE LINE:C	ALTITUDE:	150	Feet
TIME OF RELEASE: 0605 Hours	AIRCRAFT COURSE	: <u> </u>	Degrees
DURATION: NA			
CTATION OF A CTATION			
STATION G.P.A. STATION G.P.A. Stations 1 - 78 Blank	STATION G.P.A.		
SCRETORS I - /o BIENK		79	
		80	
		81 82	_
		83	
		83 84	
		85	
		86	
		87	
		88	
		89	
		90	
		91	
		92	
		93	
	-		0.1
			95 - 100
			Blank

MATERIAL: Fuel Oil		FLOW RATE: NA	
DATE: 29 June 1963		SYSTEM: FIDAL	
FLIGHT #:7		AIRSPEED: NA	
SAMPLE LINE: D		ALTITUDE: 100	Feet
TIME OF RELEASE: 0619	Hours	AIRCRAFT COURSE: 045	Degrees
DURATION: NA			
STATION G,P,A, STATION	G.P.A.	STATION G.P.A. STAT	TION G.P.A.
Stations 1 - 20 Blank 21 22 23 24 25 26 27 Stations	0.1 0.4 1.6 4.9 7.7 0.3	00 Blank	

MATERIAL: Fuel Oil	FLOW RAT	TE:	NA	
DATE: 29 June 1963	System:		FIDAL	
FLIGHT #:8	AIRSPEE):	NA	
SAMPLE LINE: D	ALT ITUDI	S: 100		Feet
TIME OF RELEASE: 0621 Hours	AIRCRAF.	COURSE:_	045	Degrees
DURATION: NA				
STATION G.P.A. STATION G.P.A. Stations 1 - 67 Blank	STATION	G.P.A.	STATION	G.P.A.
	68 69 70 71 72 11 73 74 57 76 77 Stations	0.1 0.3 0.7 1.0 2.0 5.7 2.8	1 ank	

.

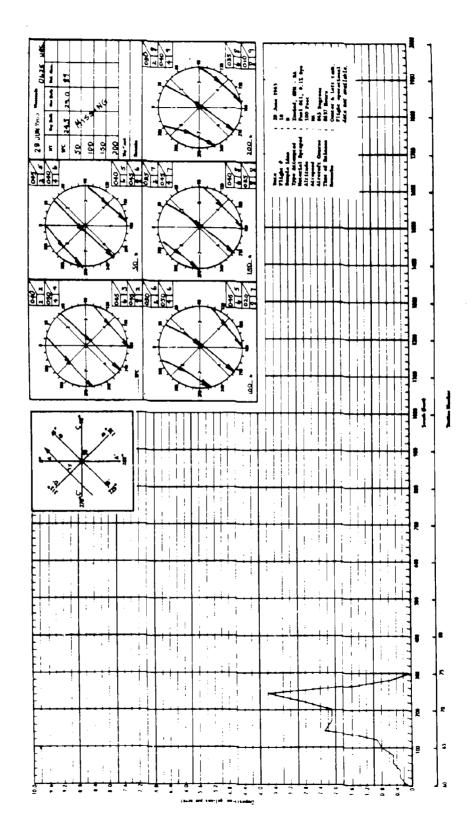
(Approximately and the second

material:	Fuel Oil		FLOW RA	TE:	NA	<u>. </u>	
DATE:	29 June 1963		SYSTEM:		PIDAI	<u></u>	
FLIGHT #:	99		AIRSPEE	D:	NA		
SAMPLE LINE:	D		ALTITUD	E:	100		Feet
TIME OF RELEASE	3:0634	Hours	AIRCRAF	T COURS	B:	045	Degrees
DURATION:	NA						
STATION G.P.A. Stations 1 - 1:		G,P,A,	STATION	G.P.A.		STATION	G.P.A.

18 0.1 19 0.2 20 0.5 21 0.9 22 1.8 23 2.4 24 5.0 25 4.6 26 0.1 Stations 27 - 100 Blank

29 July 10-2 O 613 July 10-2 O	1 1 1 1 1 1 1 1 1 1
Note that the first training in a training	R R

MATERIAL: Fuel 011	FLOW RATE:	NA .
DATE: 29 June 1963	SYSTEM:	FIDAL
FLIGHT #: 10	AIRSPEED:	NA NA
SAMPLE LINE: D	ALTITUDE: 1	00 Feet
TIME OF RELEASE: 0637 Hours	AIRCRAFT COURSE:	045 Degrees
DURATION: NA		
STATION G.P.A. STATION G.P.A. Stations 1 - 59 Blank	STATION G.P.A.	STATION G,F,A,
	60 0.1 61 0.3 62 0.3	
	63 0.5 64 0.5 65 0.8	
	66 0.9 67 1.4 68 2.3 69 2.1	
	70 2.1 71 2.9 72 3.8	
	73 1.6 74 0.6 Stations 75 - 100) Blank



MATERIAL: Fuel Oil			FLOW RA	ATE:	NA.	
DATE: 29 June 196	3		System		FIDAL	
FLIGHT #: 11			AIRSPE	BD:	NA	
SAMPLE LINE:D			ALTITU	DE:5	0	Peet
TIME OF RELEASE: 065	51 Ho	ours	AIRCRA	FT COURSE:_	045	Degrees
DURATION: NA						
STATION G.P.A. 5	IATION (G.P.A.	STATION	G.P.A.	STATION	G.P.A.
	24 25 26 27 28 29 30 31 32 33 34 35 36 Stations	0.1 0.2 1.0 2.4 3.8 5.6 1.8 1.0 0.4 0.3 0.1	Blank			

MATERIAL: Fuel Oil		FLOW R	ATE :	N/	<u> </u>	
DATE: 29 June 1963		SYSTEM	i:	FIDAL		
FLIGHT #: 12		AIRSPE	ED:	NA	·	
SAMPLE LINE:D		ALTITU	DE:	50		Feet
TIME OF RELEASE: 0653 F	lours	AIRCRA	FT COUR	SB:	045	Degrees
DURATION: NA						
STATION G.P.A. STATION Stations 1 - 73 Blank	G.P.A.	STATION	G.P.A.		STATION _	G.P.A.
Stations 1 - 73 Blank					74	0.3
					75 76	0.5
					76 77	2.1
					78	1 1
					73 79	
					80	
					81	
					82	
					83	
					84	
					85	
					86	0.2
					87	0.1
					Stations	88 - 100
						Blank

FIDAL PLIGHT DATA

NOZZLE TYPE: U5070 LIQUID SPRAYED: 2 Fuel Oil 11 July 1963 CONFIGURATION: All Tanks DATE FLOWN:

	RANK	RPM	PRESSURE PSI	FLOW RATE: GPM	REMARKS
7.1	Left		55	105	
ATRSPEED: 153 Knots	Ctr		73	115	
TIME CON AND A COLOR	Riohr		55	105	
	3		۶,	105	
KUN #2	Crr		74	115	
TIME SPRAYED: 8 Secs	Right		53	105	
DIM 40	Toff		51	100	
ATRSPED - 160 Knots	Ctr		19-78	115	
TIME SPRAYED: 8 Secs.	Right		50+	105	
2 fc N11 x	Left		51	100	
AIRSPEED: 159 Knots	Ctr		79-80	115	
TIME SPRAVED: 10 Sec	Riohe		50+	105	
	34	The state of the s	300 cm all fand		

GENERAL REMARKS:

Fan pitch setting 30° on all fans. Plane made 12 passes; all tanks functioning correctly. Flow rates at over 50 psi are estimated values based on maximum capacity of nozzlecheck valve combination. **1.** 2. 3.

DATE: 11 July 1963 SYSTEM: FIDAL FLIGHT #: 1 AIRSPEED: 153 Knots SAMPLE LINE: D ALTITUDE: 150 Feet TIME OF RELEASE: 0444 Hours AIRCRAFT COURSE: 045 Degrees DURATION: 07 Sec. STATION G.P.A. STATION G.P.A. STATION G.P.A. STATION G.P.A. Stations 1 - 7 Blank 8 .0.0 9 0.00 10 .0.1 11 0.3 12 0.3 13 0.5 14 0.7 15 0.8 16 1.0 17 1.4 18 1.4 19 1.5 20 1.4 21 1.5 22 2.2 23 2.6 24 3.8 25 3.6 26 0.6 Stations 27 - 100 Blank	MATERIAL:	2 Fuel	011, 1 Pur	ple	PLOW RATE	:	325 (app) GPM
SAMPLE LINE: D	DATE:	11_J	uly 1963		SYSTEM:	FIDAL		
TIME OF RELEASE: 0444 Hours AIRCRAFT COURSE: 045 Degrees DURATION: 07 Sec. STATION G.P.A. STATION G.P.A. STATION G.P.A. STATION G.P.A. Stations 1 - 7 Blank 8 .0.0 9 0.0. 10 .0.1 11 0.3 12 0.3 13 0.5 14 0.7 15 0.8 16 1.0 17 1.4 18 1.4 19 1.5 20 1.4 21 1.5 22 2.2 23 2.6 24 3.8 25 3.6 26 0.6	FLIGHT #:		1		AIRSPEED:	153		Knots
DURATION:	SAMPLE LI	NE:	D		ALTITUDE:	150		Feet
STATION G.P.A. STATION G.P.A. STATION G.P.A. STATION G.P.A. 8	TIME OF B	RELEASE:_	0444	Hours	AIRCRAPT	COURSE:	045	Degrees
8 .0.0 9 0.00 10 0.1 11 0.3 12 0.3 13 0.5 14 0.7 15 0.8 16 1.0 17 1.4 18 1.4 19 1.5 20 1.4 21 1.5 22 2.2 23 2.6 24 3.8 25 3.6 26 0.6	DURATION:		07	Sec.				
8 .0.0 9 0.00 10 0.1 11 0.3 12 0.3 13 0.5 14 0.7 15 0.8 16 1.0 17 1.4 18 1.4 19 1.5 20 1.4 21 1.5 22 2.2 23 2.6 24 3.8 25 3.6 26 0.6	STATION	CBA	CTATIO)	4 C P A	STATION C		STATION	CPA
9 0.00 10 0.1 11 0.3 12 0.3 13 0.5 14 0.7 15 0.8 16 1.0 17 1.4 18 1.4 19 1.5 20 1.4 21 1.5 22 2.2 23 2.6 24 3.8 25 3.6 26 0.6				<u>, 0,1,5,</u>	SIRIION G.F	<u></u>	DIALLON	<u> </u>
9 0.00 10 0.1 11 0.3 12 0.3 13 0.5 14 0.7 15 0.8 16 1.0 17 1.4 18 1.4 19 1.5 20 1.4 21 1.5 22 2.2 23 2.6 24 3.8 25 3.6 26 0.6								
9 0.00 10 0.1 11 0.3 12 0.3 13 0.5 14 0.7 15 0.8 16 1.0 17 1.4 18 1.4 19 1.5 20 1.4 21 1.5 22 2.2 23 2.6 24 3.8 25 3.6 26 0.6								
9 0.00 10 0.1 11 0.3 12 0.3 13 0.5 14 0.7 15 0.8 16 1.0 17 1.4 18 1.4 19 1.5 20 1.4 21 1.5 22 2.2 23 2.6 24 3.8 25 3.6 26 0.6								
10	8	.0.0						
11 0.3 12 0.3 13 0.5 14 0.7 15 0.8 16 1.0 17 1.4 18 1.4 19 1.5 20 1.4 21 1.5 22 2.2 23 2.6 24 3.8 25 3.6 26 0.6								
12								
13								
14 0.7 15 0.8 16 1.0 17 1.4 18 1.4 19 1.5 20 1.4 21 1.5 22 2.2 23 2.6 24 3.8 25 3.6 26 0.6								
15								
16 1.0 17 1.4 18 1.4 19 1.5 20 1.4 21 1.5 22 2.2 23 2.6 24 3.8 25 3.6 26 0.6								
17 1.4 18 1.4 19 1.5 20 1.4 21 1.5 22 2.2 23 2.6 24 3.8 25 3.6 26 0.6	15	0.8						
17 1.4 18 1.4 19 1.5 20 1.4 21 1.5 22 2.2 23 2.6 24 3.8 25 3.6 26 0.6	16	1.0						
19 1.5 20 1.4 21 1.5 22 2.2 23 2.6 24 3.8 25 3.6 26 0.6	17	1.4						
20 1.4 21 1.5 22 2.2 23 2.6 24 3.8 25 3.6 26 0.6								
21 1.5 22 2.2 23 2.6 24 3.8 25 3.6 26 0.6								
22 2.2 23 2.6 24 3.8 25 3.6 26 0.6								
23 2.6 24 3.8 25 3.6 26 0.6								
24 3.8 25 3.6 26 0.6								
25 3.6 26 0.6								
26 0.6								
	26	0.6						
			00 Blank					

લીકો બા⊣ં હાં લીક્તે : i		1 1 1	
1 3 4 5 5 6 6 7 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8			
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			1 1 1 3 4 1 1 1 1 1 1 1 1 1
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1494			
		(gan	

MATERIAL: 2 Fuel Oil, 1 Purple	PLOW RATE:	325 (app)	GPM
DATE: 11 July 1963	SYSTEM:	FIDAL	
FLIGHT #: 2	AIRSPEED:	160	Knots
SAMPLE LINE: D	ALTITUDE:	150	Peat
TIME OF RELEASE: 0447 Hours	AIRCRAFT CO	OURSE: 045	Degrees
DURATION: 08 Sec.			
STATION G.P.A. STATION G.P.A. Stations 1 - 62 Blank	STATION G.P.	A. STATION	G.P.A.
	63 0.2		
	64 0.5 65 0.4		
	66 0.3		
	67 0.5		
	68 1.0		
	69 2.8		
	70 3.5		
	71 2.5		
	72 2.9		
	73 3.4		
	74 2.8		
	75 2.2		
	76 3.3		
	77 0.7 78 0.0		
	Stations 79	· 100 Blank	

A MANAGEMENT AND A SERVICE SERVICE SERVICE SERVICES SERVI

MASS MEDIAN DIAMETER

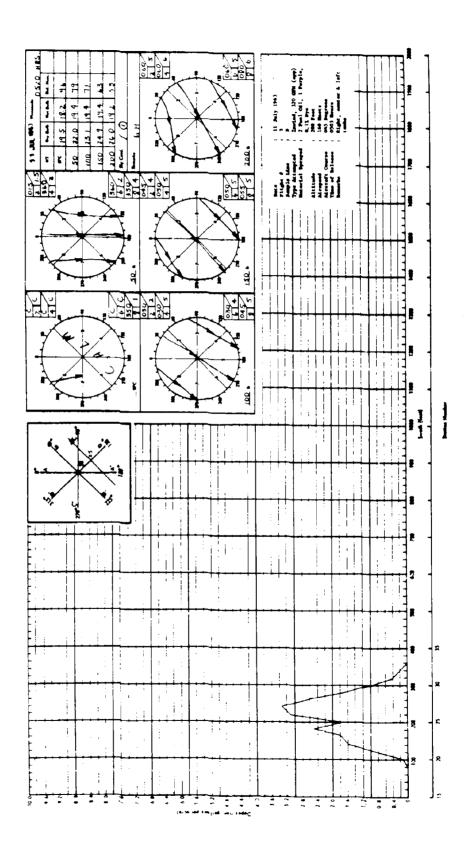
DATE: 11	July 1963		CONVERSION	FACTOR: 2.5
FLIGHT #:	3		PAPER:	Kromekote, white
SAMPLE LINE:	D	·	material:_	2 Fuel Oil, 1 Purpl
PLOW BATE	320	GPH	SYSTEM:	FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
31	10	4400	29	2	3400
31	8	4300*			
31	4	4200			
31	6	4100			
30	3	4000			
29	1	39 00			
31	7	3800			
31	5	3 700			
31	9	3500	11	1	100
					_

MMD =
$$\frac{70.44 + 0.1431(\text{Spot D Max})}{\text{Con. Pactor}} = \frac{70.44 + 0.1431(4300)}{2.5} = 275 \text{ microns}$$

Min. Spherical Diameter = 63 microns

MATERIAL: 2 Fuel Oil	, 1 Purpl	e	FLOW I	RATE:	320 (app)	GPM
DATE: 11 July	1963		SYSTE	M:	FIDAL	
FLIGHT #: 3			AIRSP	BED:	160	Knots
SAMPLE LINE: D			ALTIT	UDE:	200	Feet
TIME OF RELEASE:	0503	Hours	A IRCR	AFT COURS	E: 045	Degrees
DURATION: 08		Sec.				
STATION G.P.A	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 18 Blank	20 21 22 23 24 25 26 27 28 29 30 31 32 33	0.1 0.8 1.6 1.8 2.5 1.8 3.1 3.3 2.6 1.7 1.0 0.4 0.2) Blank			



MATERIAL: 2 Fuel Oil, 1 Purple	FLOW BATE:	320 (LPP)	GPH
DATE: 11 July 1963	SYSTEM:	FIDAL	
FLIGHT #:4	AIRSPEED:	159	Knots
SAMPLE LINE: D	ALTITUDE:	200	Feet
TIME OF RELEASE: 0508 Hours	AIRCRAFT COURS	E:045	Degrees
DURATION: 10 Sec.			
STATION G.P.A. STATION G.P.A.	STATION G.P.A.	STATION	G.P.A.
Stations 1 - 69 Blank		70	
		71	
		72	1.3
		73	1.6
		74	1.7
		75	2.9
		76	3.5
		77	4.1
		78	
		79	
		80	
		81	1.6
		82	
		83	
		Stations	84 - 100
			Blank

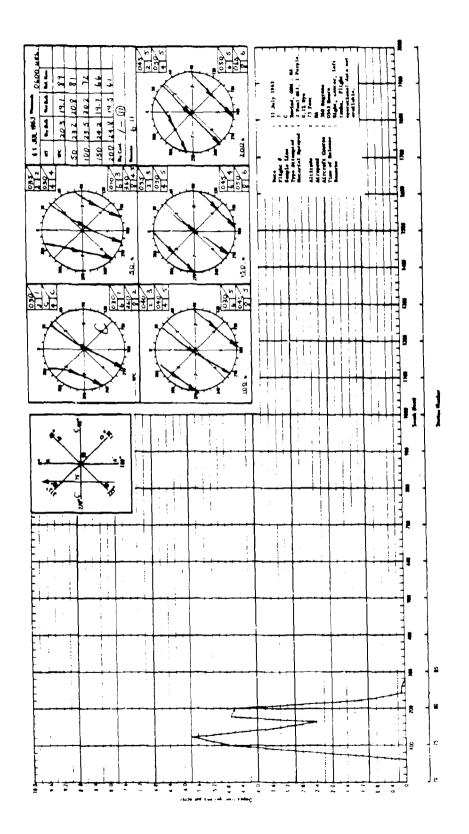
20 11.00 12.0 10.0 10.0 10.0 10.0 10.0 1	11 3.17 383 383 383 383 383 383 383 383 383 38

MATERIAL: 2 Fuel Oil, 1 Purple	PLOW BATE:	RA .	
DATE: 11 July 1963	SYSTEM: F	IDAL	
FLIGHT #: 5	AIRSPEED: N	<u> </u>	
SAMPLE LINE: C	ALTITUDE:	100	Feet
TIME OF RELEASE: 0526 Hours	AIRCHAFT COURSE:	360	Degrees
DURATION: NA			
STATION G.P.A. STATION G.P.A.	STATION G.P.A.	STAT ION	G.P.A.
Stations 1 - 68 Blank		69	0.1
		70 71	
		72	
		73	
		74	
		75	
		76	4.6
		77	4.8
		78 79	5.8
		79	1.5
		80	
		81	
		Stations	82 - 100
			Blank

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						Management of the control of the con
	3					

MATERIAL: 2 Fuel Oil,	1 Purp	le	FLOW RATE	:	NA	
DATE: 11 July	1963		SYSTEM:		FIDAL	
FLIGHT #: 6			AIRSPEED:		NA	
SAMPLE LINE: C			ALTITUDE:		100	Feet
TIME OF RELEASE:	0528	Hours	AIRCRAFT	COURSE:_	360	Degrees
DURATION: N	<u> </u>					
STATION G.P.A. S	TATION		OWARIAN A S		COL BYON	
Stations 1 - 22 Blank	23 24 25 26 27 28 29 30 31 32 33 34 35 36	0.1 0.2 2.7 2.3 2.3 3.9 4.8 5.3 3.2 0.8 0.4 0.2				
s	-	37 - 10	0 Blank			

MATERIAL: 2 Fuel Oil, 1 Purple	FLOW RATE:	NA	
DATE: 11 July 1963	SYSTEM:	FIDAL	
FLIGHT #:7	AIRSPEED:	NA	
SAMPLE LINE: C	ALTITUDE:	75	Peet
TIME OF RELEASE: 0543 Hours	AIRCRAFT COURSE:	360	Degrees
DURATION: NA			
STATION G.P.A. STATION G.P.A.	STATION G.P.A.	STATION	G.P.A.
Stations 1 - 73 Blank		74	2.4
		75 76	4./
		76 77	3.0
		78	2.4
		79	4.7
		80	
		81	
		82	0.1
		83	
		Stations	84 - 100
			Blank



MATERIAL: 2 Fuel Oil	, 1 Purp	le	FLOW I	MTE:	NA NA	
DATE: 11 July	1963		SYSTE	t:	FIDAL	
FLIGHT #: 8			AIRSF	EED:	NA	
SAMPLE LINE: C		÷	ALTIT	DDE:	75	Feet
TIME OF RELEASE: 054	.5	Hours	AIRCR	AFT COURSE:	360	Degraes
DURATION:	NA NA	 -				
STATION G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 22 Blank	23 24 25 26 27 28 29 30 31 32 33	2.3 2.7 1.3 4.6 4.6 4.2 1.0 0.8 0.2				
		35 - 100	Blank			

200 20 20 20 20 20 20 20 20 20 20 20 20	5 4 5 4 5 4 5	11 Any 1841 Contact, mar. m. Contact, m. Contac	
20 13 14 2 12 14 2 1 1 1 1 1 1 1 1 1 1 1 1 1	j j	Title of the state	
			*

		2	¥ -
			1 1 8

material:	2 Fuel Of	ll, l Purpl	<u>•</u>	FLOW RATE	:N	<u> </u>	
DATE:	ll July	1963		System:	PII	ML	
FLIGHT #:	9			ATRSPEED:	NA		
SAMPLE LI	NB:D			ALTITUDE:	100	0	Pact
TIME OF R	ELEASE:	0603	Hours	ATROPAFT	COURSE:	045	Destees
DURATION:		NA.					
STATION	G.P.A.	STATION	G.P.A.	STATION G.	?. A .	STATION	G.P.A.
Stations	1 - 12 B14	nk					
16	0.3						
17	0.3						
18 19 20	0.5						
19	1.0						
21	1.0						
22							
23							
24							
25							
26	5.5						
27	8.5						
28	0.7						
28 29 30	0.4						
Stations	31 - 100 1	Rlank					

MATERIAL: 2 Fuel	Oil, l Purp	l e	FLOW 1	RATE:	NA.	
DATE: 11 July				M:		
FLIGHT #: 10			AIRSP			
SAMPLE LINE: D				UDE:		PEST
TIME OF RELEASE:	0605	Hours	AIRCE	AFT COURSE:	045	Degrees
DURATION:	NA					
STATION G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
			71 72 73 74 75 76	0.2 0.6 0.6 0.7 0.6 2.2 1.9 2.3 3.3 5.1 4.5		
			78 79 80	6.7 0.9 0.4 0.1	R] anb	

AND THE PROPERTY CONTRACTOR IN THE PROPERTY OF
MATERIAL: 2 Fuel Oil, 1 Pur	ple	FLOW RA	ATE:	NA.	
DATE: 11 July 1963		SYSTEM	·	FIDAL	
FLIGHT #: 11		A IRSPRI	S D:	NA	
SAMPLE LINE: D		ALTITU	OB:	150	Feet
TIME OF RELEASE: 0622	Hours	AIRCRAI	FT COURSE	:045	Degrees
DURATION: NA					
STATION 3G,P.A. STATION Stations 1 - 68 Blank	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
		69 70 71 72 73 74 75 76 77 78 Stations	1.0 1.4 1.4 2.1 3.6 5.2 5.0 1.9	Blank	

	1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	The factor of	' !
	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		

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MATERIAL: 2 Puel	011, 1 Pu	rple	FLOW RATE:	NA	
DATE: 11 Ju	ly 1963	·	SYSTEM:	FIDAL	
FLIGHT #:	12		AIRSPEED:	NA NA	
SAMPLE LINE:	D		ALTITUDE:	150	Feet
TIME OF RELEASE:	0624	Hours	AIRCRAFT COU	RSE: 045	Degrees
DURATION:	NA.				
STATION G.P.A.	STATION	G.P.A.	STATION G.P.A.	STATION	G.P.A.
Stations 1 - 18 B1	enk				
19 0.6					
20 1.2					
21 1.8 22 1.8					
23 1.6					
24 1.6					
25 2.0 26 3.9					
27 5.6					
28 3.5					
29 0.1 Stations 30 - 100	Rlank				

DATE: 11 July 1963 SYSTEM: FIDAL FLIGHT #: 13 AIRSPEED: NA SAMPLE LINE: D ALTITUDE: 75 Feet TIME OF RELEASE: 0621 Hours AIRCRAFT COURSE: 045 Degrees DURATION: NA STATION G.F.A. STATION G.F.A. STATION G.P.A. STATION G.P.A. Stations 1 - 16 Blank 17 0.2 18 0.2 19 0.3 20 1.0 21 1.5 22 2.4 23 0.9 24 1.7 25 1.3 26 3.5 27 5.6 28 5.6 29 0.2 Stations 30 - 100 Blank	MAIBAIAL: 2 FUEL	OLI, I Purp	16	FINM MAIS:	149	
SAMPLE LINE: D ALTITUDE: 75 Feet TIME OF RELEASE: 0621 Hours AIRCRAFT COURSE: 045 Degrees DURATION: NA STATION G.P.A. STATION G.P.A. STATION G.P.A. STATION G.P.A. STATION G.P.A. Stations 1 - 16 Blank 17 0.2 18 0.2 19 0.3 20 1.0 21 1.5 22 2.4 23 0.9 24 1.7 25 1.3 26 3.5 27 5.6 28 5.6 29 0.2	DATE: 11	July 1963		SYSTEM:	FIDAL	
TIME OF RELEASE: 0621 Hours AIRCRAFT COURSE: 045 Degrees DURATION: NA STATION G,P,A, STATION G,P,A, STATION G,P,A, STATION G,P,A, Stations 1 - 16 Blank 17 0.2 18 0.2 19 0.3 20 1.0 21 1.5 22 2.4 23 0.9 24 1.7 25 1.3 26 3.5 27 5.6 28 5.6 29 0.2	FLIGHT #:	13		AIRSPEED:	NA NA	
DURATION:	SAMPLE LINE:	D		ALTITUDE:	75	Feet
STATION G.P.A. STATION G.P.A. STATION G.P.A. STATION G.P.A. 17	TIME OF RELEASE:_	0621	Hours	AIRCRAFT COURSE	045	Degraes
17 0.2 18 0.2 19 0.3 20 1.0 21 1.5 22 2.4 23 0.9 24 1.7 25 1.3 26 3.5 27 5.6 28 5.6 29 0.2	DURATION:	NA.				
17	STATION G.P.A.	STATION	G.P.A.	STATION G.P.A.	STATION	G.P.A.
18	Stations 1 - 10 B	retik				
18						
18						
18						
18						
18						
18	17 0.2					
20 1.0 21 1.5 22 2.4 23 0.9 24 1.7 25 1.3 26 3.5 27 5.6 28 5.6 29 0.2	18 0.2					
21 1.5 22 2.4 23 0.9 24 1.7 25 1.3 26 3.5 27 5.6 28 5.6 29 0.2						
22 2.4 23 0.9 24 1.7 25 1.3 26 3.5 27 5.6 28 5.6 29 0.2						
24 1.7 25 1.3 26 3.5 27 5.6 28 5.6 29 0.2						
25 1.3 26 3.5 27 5.6 28 5.6 29 0.2	23 0.9					
26 3.5 27 5.6 28 5.6 29 0.2						
27 5.6 28 5.6 29 0.2						
28 5.6 29 0.2						
29 0.2	27 5.6					
	20 D.2					
) Blank				

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DATE: 11 July 1963	SYSTEM:	FIDAL	
FLIGHT #: 14	AIRSPEED:	NA	
SAMPLE LINE: D	ALTITUDE:	75	Feet
TIME OF RELEASE: 0623 Hours	AIRCRAFT COURSE	045	Degrees
DURATION: NA			
STATION G.P.A. STATION G.P.A.	STATION G.P.A.	STATION	G.P.A.
Stations 1 - 69 Blank		70 71	
		72	
		73	
		74	1.4
		75	
		76	
		77	3.3
		78	
		79	
		80 81	
		82	
		83	
			84 - 100
			Blank

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The flight data for 14 July is the same as for 15 July; refer to pages 332-333.

MATERIAL: 2 Fuel Oi	l, l Purpl	<u>e</u>	PLOW RATE	::	325 (pp) GPM
DATE: 14 Ju	ly 1963		SYSTEM:	FIDAL	<u> </u>	
FLIGHT #: 1			AIRSPEED:		152	Knots
SAMPLE LINE: A			ALTITUDE		100	Feet
TIME OF RELEASE:	0454	Hour	AIRCRAFT	COURSE:_	270	Degrees
DURATION: 0	7	Sec.				
STATION G.P.A.	STATION_	G, P, A.	STATION_G.	P.A	STATION	G, P.A.
Stations 1 - 18 Blan	k 19	0.0				
	20					
		2,6				
	22					
	23					
	24	3.8				
	25	6.5				
	26	7.8				
	27	5.4				
	28	3.6				
	29	1.5				
	30	1.0				
	31	0.6				
	32					
	33					
		34 - 100	Blank			

	•	24.5 25.1 25.2 8.3 8.3 8.3 8.3 8.3 8.3 8.3 8.3 8.3 8.3		1 Auty 1881	A STATE OF THE STA		
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			2 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			## 1	
			1				
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MATERIAL: 2 Fuel Oil, 1 Purple	FLOW RATE: 325	(app)	GPM
DATE: 14 July 1963	SYSTEM: FIDAL	<u> </u>	
FLIGHT #: 2	AIRSPRED:	163	Knots
SAMPLE LINE: A	ALTITUDE: 1	.00	Peet
TIME OF RELEASE: 0456 Hours	AIRCRAFT COURSE:_	270	Degrees
DURATION: 06 Sec.			
STATION G.P.A. STATION G.P.A.	STATION C D A	STATION	
Stations 1 - 69 Blank	STATION G.F.A.		0.2
			0.3
			5.1 3.5
			2.9
			3.1
		76	4.3
			4.7
			9.4
			6.2
			1.3 0.4
			0.4
			0.0
			0.2
		Station	s 85 - 100
			Blank

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	TOTAL STATE OF THE PROPERTY OF
to gg	

MATERIAL: 2 Fuel	Oil, 1 Purpl	le	FLOW R	ATE: 32	5 (app)	GPH
DATE: 14 J	uly 1963		System	:PIDA	<u>L</u>	
FLIGHT #: 3			AIRSPE	BD: 15	4	Knots
SAMPLE LINE:	Α		ALTITU	DE:	100	Peet
TIME OF RELEASE:_	0511	Hours	AIRCRA	FT COURSE:	270	Degrees
DURATION:	05	Sec.				
STATION G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 22	Blank 23	1.2				
	24	•				
	25					
	26					
	27					
	28					
	29					
	30					
	31					
	32					
	33					
	34	_				
	35					
	36					
		0.6				
	Stations	38 -	100 Blank			

MATERIAL: 2 Fuel Oil, 1 Purple	FLOW RATE:	325 (app)	G PM
DATE: 14 July 1963	SYSTEM:	FIDAL	
FLIGHT #:4	AIRSPEED:	161	Knots
SAMPLE LINE: A	ALTITUDE:	100	Feet
TIME OF RELEASE: 0513 Hours	AIRCRAFT COUR	RSE:270	Degrees
DURATION: 08 Sec.			
STATION G.P.A. STATION G.P.A.	STATION G.P.A.	STATION	G.P.A.
STATION G.P.A. STATION G.P.A. Stations 1 - 73 Blank		74	3.0
		75	4.0
		7 6	3.4
		77	3.5
		78	4.1
		79	4.4
		80	6.5
		81	4.0
		82	3.0
		83	1.8
		84	1.5
		85	0.4
		86	0.2
		Stations	87 - 100
			Blank

MATERIAL: 2 Fuel Oil, 1 Purp		FLOW RATE:		GER
DATE: 14 July 1963		SYSTEM:	IDAL	
FLIGHT #: 5		AIRSPEED:	157	Knots
SAMPLE LINE:A		ALTITUDE:	100	Peet
TIME OF RELEASE: 0533	Hours	AIRCRAFT COURSE	:270	Degrees
DURATION: 08	Seç.			
STATION G,P,A, STATION	G.P.A.	STATION G.P.A.	STATION	G.P.A.
Stations 1 - 72 Blank			73 72	
			75	• •
			76	• •
			77	2.5
			78	7.0
			79	
			80	3.5
			81	
			82	
			Stations	83 - 100
				Blank

MAIERIAL: 2 Fuel	V11, 1 10t	<u> </u>	1 25"	10113		70111	
DATE: 14 J	uly 1963		SYSTE	H:	F T	D4.].	
FLICHT #: 6			AIRSP	EED:	152		Kt. 5 t 3
SAMPLE LINE:	Α		ALTIT	TUDE:	10	<u>c</u>	Fent
TIME OF RELEASE:_	0535	Hours	AIRCR	LAFT (COURSE:_	270	Degrees
DURATION:	14	Sec.					
STATION G.P.A.	STATION	G.P.A.	STATION	G.P	.A.	STATION	Ç.P.A.
Stations 1 - 21 Bl	lank 22	0.2					
	23						
	24						
	25						
	26						
	27						
	28						
	29						
	30						
	31	•					
	32						
		1.2					
	34						
	35						
	36						
		0.0					
	Station	s 38 - 19	00 Blank				

MATERIAL: 2 Fuel Oil, 1 Purple	FLOW RATE: 325 (app)	GPM
DATE: 14 July 1963	SYSTEM: FIDAL	
FLIGHT #:7	AIRSPEED: 167	Knots
SAMPLE LINE:A	ALTITUDE: 75	Feet
TIME OF RELEASE: 0553 Hours	AIRCRAFT COURSE: 270	Degrees
DURATION: 10 Sec.		
STATION G.P.A. STATION G.P.A. Stations 1 - 66 Blank	STATION G.P.A. STATION	G.P.A.
	67 0.0 68 0.6 69 0.6 70 1.3 71 3.7 72 4.1 73 3.9 74 4.2 75 5.5 76 4.2 77 4.6 78 3.2 79 0.9	
	79 0.9 80 1.2 81 0.4 82 0.0 Stations 83 - 100 Blank	

MATERIAL: 2 Fu	el Oil, l Pur	ole	FLOW RATE:_	3 2 5	(app)	GPM
DATE:	14 July 1963		SYSTEM:	F ID.	AL	
FLIGHT #:	8		AIRSPEED:	165		Knots
SAMPLE LINE:	A		ALTITUDE:	75		Feet
TIME OF RELEASE:	0555	Hours	AIRCRAFT CO	URSE:_	270	Degrees
DURATION:	13	Sec.				
STATION G.P.A.	MOITATS	G.P.A.	STATION G.P.A	•	STATION	G. P.A.
Stations 1 - 18	Blank 19	0.0		·		
	20	0.4				
	21	0.9				
	22	3.4				
	23	4.2				
	24					
	25					
	26					
	27					
	28					
	29					
	30					
	30					
	31					
	33		51 !			
	Stations	34 - 100	Blank			

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MASS MEDIAN DIAMETER

DATE: 14 July 1963	CONVERSION FACTOR: 2,5
FLIGHT #: 9	PAPER: Kromekote, white
SAMPLE LINE: A	MATERIAL: 2 Fuel Oil, 1 Purple

FLOW RATE: 325 GPM SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
25	4	4400 *	25	10	330 0
25	3	4200			
25	1	4100			
25	2	4000			
25	5	3800			
25	9	3700			
25	8	360 0			
25	6	3500			
25	7	3400	1	1.A	100

$$\frac{100}{100} = \frac{70.44 + 0.1431(Spot D Max)}{100} = \frac{70.44 + 0.1431(4400)}{2.5} = 280 \text{ microns}$$

Min. Spherical Diameter = 63 microns

MATERIAL: 2 Fuel	Oil, 1 Purp	le	FLOW	RATE: 32	5 (app)	GPH
DATE: 14 J	uly 1963		SYSTE	M: <u>F</u>]	DAL	
FLIGHT #:	9		AIRSP	EED:	165	Knots
SAMPLE LINE:	Α		ALTIT	UDE:	75	Feet
TIME OF RELEASE:	0613	Hours	AIRCR	AFT COURSE:_	270	Degrees
DURATION:	12	Sec.				
STATION G.P.A.		G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 61 Bl	ank					
			6 2	0.1		
			63			
			64			
			65	0.5		
			66			
			67			
			68	0.8		
			69 70	1.4 2.6		
			70 71			
			72			
			73			
				6.0		
			75			
			76	0.1		
			77	0.0		
			C+ + /	~ 70 100 B	1	

MASS MEDIAN DIAMETER

DATE: 14 July 1963 CONVERSION FACTOR: 2.5

FLIGHT #: 10 PAPER: Kromekote, white

SAMPLE LINE: A MATERIAL: 2 Fuel Oil, 1 Purple

FLOW RATE: 325 (app) SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
76	6	7200	76	11	5300
76	4	6600	76	7	5200
76	5	6300*	76	10	5100
76	2	6100			
76	3	5900			
76	12	5700			
76	1	5600			
76	9	5500			
76	8	5400	51	1.4	100

$$\frac{70.44 + 0.1431 \text{ (Spot D Max)}}{\text{Con. Factor}} = \frac{70.44 + 0.1431(6300)}{2.5} = 389 \text{ microns}$$

Max. Spherical Diameter =
$$70.44 + 0.1431$$
(Max. Spot) = $70.44 + 0.1431$ (7200) = 1100μ

Min. Spherical Diameter = 63 microns

MATERIAL: 2 Fuel Oil, 1 Purple	FLOW RATE:	325 (app)	GPM
DATE: 14 July 1963	SYSTEM:		
FLIGHT #: 10	AIRSPEED:	163	Knots
SAMPLE LINE: A	ALTITUDE:		
TIME OF RELEASE: 0615 Hours	AIRCRAFT COURS	SE: 270	Degrees
DURATION: 13 Sec.			
STATION G.P.A. STATION G.P.A. Stations 1 - 10 Blank	STATION G.P.A.	STATION	G.P.A.
Stations I - 10 Blank			
11 0.1 12 0.2			
13 0.6			
14 0.6			
15 0.7 16 2.6			
17 0.9			
18 0.9			
19 1.7 20 1.4			
21 2.3			
22 2.6			
23 4.3			
24 11.3			
25 1.2 26 0.0			
Stations 27 - 100 Blank			

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FIDAL FLIGHT DATA

DATE FLOWN: 15 July 1963

NOZZLE TYPE: 5070

CONFIGURATION: Wing tanks only LIQUID SPRAYED: Fuel Oil

	TANY	жал	PRESSIRE PSI	FLOW RATE GPM	REMRES
	TURN				
RUN #2	Left	2300	32	CIT	
AIRSPEED: 161 Knots	Ctr		64	115	
1 5	Right	-	102	115	
1					
RIJN #3	Left	2300	52	115	
AIRSPEED: 160 Knot 8	Ctr		99	115	
TIME SPRAYED: 15 Sec.	Right		97	115	
		23004	73-65	115	When center tank pressure was 63 ps. the left and right gauges were indi-
KUN #4					cating zero (0) psi which indicated
AIRSPEED: 160 Knots	Ctr		99	115	pe88ing.
TIME SPRAYED: 14 Sec.	Right		100-104	115	
# P.	10	2300	52	115	
ATROPERD: 165 Knot 8	Ctr				
	Right		799	115	
1 -	15 gallon	s per mir	lute were determ	ined as maximum fl	15 gallons per minute were determined as maximum flow by ground checks.

FIDAL FLIGHT DATA

NOZZLE TYPE: 5070 LIQUID SPRAYED: Fuel 011 CONFIGURATION: Wing tanks only DATE FLOWN: 15 July 1963

1				1	SAGYMAG
	TANK	RPH	PRESSURE PSI	FLUW KALE GER	
DIN 45	Left	2300	36-52	115	
NON TO					
Arnemen. 156-167 Knots Ctr	Ctr	;	1		
AIMSTEED. 130-101				115	
TIME SPRAYED: 17 Sec.	Right		55-64	111	
	100	2 300	52-53	115	
RUN #/			L		
100A C71 C71	į]]]	;		
AIRSPEED: 100-102 MIDES CLE	1				
			79	115	
TIME SPRAYED: 11 Sec.	Kigne		5		
	Ì				

GENERAL REMARKS: 1. 115 gallons per minute were determined as maximum flow by ground checks.

MATERIAL: 2 Fu	iel Oil, l Purj	ole	FLOW R	ATE:	345 (app)	GPM
DATE:	15 July 1963		SYSTEM	l:	FIDAL	
FLIGHT #:	1		AIRSPE	ED:	160	Knots
SAMPLE LINE:	A		ALTITU	DE:	100	Feet
TIME OF RELEASE	:0438_	Hours	AIRCRA	AFT COURSE	: 270	Degrees
DURATION:	08	Sec.				
STATION G.P.A.	STATION	G,P,A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 21	Blank 22	0.1				
	23	0.5				
	24 25	1.0				
	25	4.4				
	26	3.7				
	27	3.4				
	28					
	29					
	30					
	31					
	32					
	33					
	34					
	35					
	36	0.7				
	37	0.3				
	38 39	0.6				
	39	0.2				
	40	0.3				
		0.5				
	Station	42 - 100	Blank			

94 41 41 41 41 41 41 41		I har je.	
24.4 24.4 24.4 24.4		15 July 1983 16 July 1983 17 July 1983 18 July 1983 1983 Berry 1983 Berry 1984 Berry 198	
200 100 100 100 100 100 100 100 100 100			
		2	
4 9 9%			
7 4			
	: :		
			£ -
			8

5 (app)	GPM
AL	
162 K	nots
100	Feet
270 Deg	rees
STATION G.F	٠,٨,_
71 3.8 72 3.5 73 3.9 74 2.1 75 2.7 76 3.4 77 3.8 80 2.8 81 1.8 82 0.8 83 0.8 84 0.8 85 0.8 86 0. Stations 87	3 5 5 9 1 1 7 7 4 4 9 9 6 6 2 2 1 1 1 1 4 4 2 2 3 3 3 3

And the resident sections of the second sections of the second sections of the second section is

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MATERIAL: 2 Fuel	011, 1 Pu	rple	FLOW RATE:	345 (app)	GPM
DATE: 15	July 1963		SYSTEM:	PIDAL	
FLIGHT #:	3		AIRSPEED:	158	Knots
SAMPLE LINE:			ALTITUDE:	150	Foet
TIME OF RELEASE:	0500	Hours	AIRCRAFT COURSE:	270	Degrees
DURATION:	15	Sec.			
STATION G.P.A.	STATION	G.P.A.	STATION G.P.A.	STATION	G.P.A.
Stations 1 - 72 Bla	ink			73	
				74	
				75	
				76	
				77	
				78 79	
					4.8
				81	3.3
				82	3.9
					1.9
				84	
				85	0.4
				86	0.3
				87	0.5
				88	
				89	
				90	0,3
				Stations	91 - 100 Blank

	100 120 120 120 120 120 120 120 120 120	Line Line Line Line Line Line Line Line			
		-	+ + + + + + +	• • • • • • • • • • • • • • • • • • • •	- R
				<u></u>	= =
				· · · · · · · · · · · · · · · · · · ·	4 8
				*	× ×

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MATERIAL: 2 Fuel	011, 1 Pur	1e	FLOW 1	RATE:	345 (app)	GPM
DATE: 15 July 1963			SYSTE	H:	FIDAL	
FLIGHT #:	4		AIRSP	EED:	165	Knots
SAMPLE LINE:	Λ		ALTIT	UDE:	150	Peet
TIME OF RELEASE:	0502	Hours	AIRCR	AFT COURSE	: 270	Degrees
DURATION:	14	Sec.				
STATION G.P.A. Stations 1 - 22 B1	STATION	G.P.A.	STATION	G.P.A.	STATION	G,P,A,
Stations 1 - 22 Bl						
	24					
	25					
	26					
	27	2.3			**	
	28					
	29	2.8				
	30	3.9				
	31	4.4				
	32					
	33	2.4				
	34	0.8				
	35					
	36					
	37					
	38					
	39					
		40 - 10	0 Blank			

MATERIAL: 2 Fuel Oil, 1 Purple	FLOW RATE: 23	0 (εpp) GPM
DATE: 15 July 1963	SYSTEM: F	IDAL
FLIGHT #:5	AIRSPEED:	164 Knots
SAMPLE LINE: A	ALTITUDE:	150 Feet
TIME OF RELEASE: 0518 Hours	AIRCRAFT COURSE:	270 Degrees
DURATION: 13 Sec.		
STATION G.P.A. STATION G.P.A. Stations 1 - 68 Blank	STATION G,P,A,	STATION G.P.A.
	69 0.0 70 0.4 71 2.7 72 0.8 73 3.0	
	74 1.5	

1.5

1.3

2.4

5.2

1.8

0.0 Stations 81 - 100 Blank

75

76 77

78

79

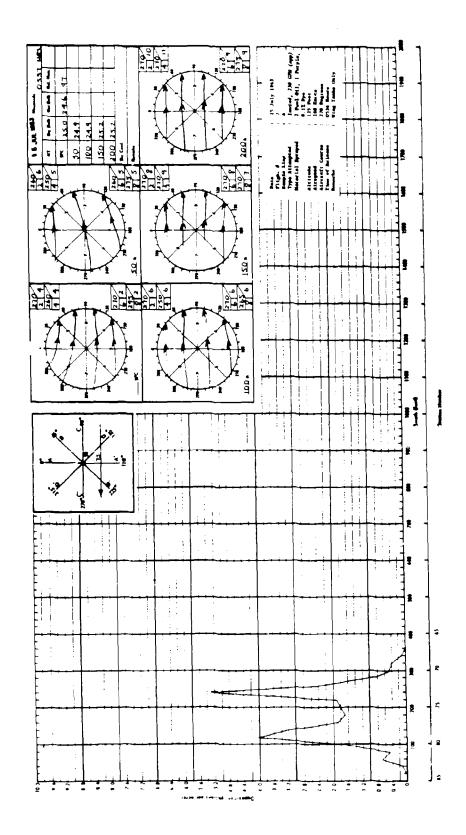
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100 001 Jaly 1943 1 150 24.1 200 24.1 50 24.4 100 24.7 1 1 16.34.06. MILITAL DESCRIPTION OF THE PROPERTY OF THE PRO 150. g نو Ŧį روزه 1 1.1 ij, 1 (100 1. 3 i. İ, $\frac{1}{4}$

MATERIAL:	2 Fuel	Oil, l Purp	le	FLOW RATE:	230 (app)	GPM
DATE:	15 Ju	ıly 1963		System:	FIDAL	
FLIGHT #:		6		AIRSPEED:	160	Knot
SAMPLE LI	NE :	Α		ALTITUDE:	150	Feet
TIME OF R	elæase : _	0520	Hours	AIRCRAFT COUR	SE:270_	Degrees
DURATION:		15	Sec.			
STATION	G.P.A.	STATION	G.P.A.	STATION G.P.A.	STATION	G.P.A.
Stations	1 - 16 B	lank				
17	0.0					
18						
19						
20 21						
22	3.0					
23	1.4					
24	1.4					
25	1.5					
26						
27						
28						
29						
30 Stations	0.1) D 11				
SERETORS	21 - TO) DIMETR				

THE PROPERTY OF THE PROPERTY O

MATERIAL: 2 Pu	el 0il, l P	urple	FLOW R	ATE:	230 (app)	GPM
DATE:	15 July 196	3	System	l:FI	DAL	
FLIGHT #:	7		AIRSPE	ED:	160	Knot*
SAMPLE LINE:	Α		ALTITU	DE:	125	Feet
TIME OF RELEASE:	0536	Hours	A IRCRA	AFT COURSE:	270	Degrees
DURATION:	12	Sec.				
STATION G.P.A.		G.P.A.	STAT ION	G.P.A.	STATION	G.P.A.
Stations 1 - 67 Bl	ank					
			69 70 71 72 73 74 75 76 77 78 79 80 81 82 83	0.4 0.5 0.9 2.5 5.3 1.9 1.8 1.7 1.9 3.3 4.0 1.8 0.5 0.7		



MATERIAL: 2 Fuel Oil, 1 Purple	FLOW RATE: NA NA
DATE: 15 July 1963	SYSTEM: FIDAL
FLIGHT #: 8	AIRSPEED: NA
SAMPLE LINE:A	ALTITUDE: 125 Feet
TIME OF RELEASE: 0538 Hours	AIRCRAFT COURSE: 270 Degrees
DURATION: NA	
STATION G.P.A. STATION G.P.A.	STATION G.P.A. STATION G.P.A.
Stations 1 - 18 Blank	
19 0.2	
20 1.0 21 1.7	
22 2.0	
23 3.9	
24 2.3	
25 1.7	
26 2,9	
27 3.0	
28 6.3	
29 1.1	
30 1.0 31 0.9	
32 0.5 33 0.0	
Stations 34 - 100 Blank	

ATERIAL: 2 Fuel Oil			- 40#			
ATE: 15 July	1963		SYSTE	M:	FIDAL	
LIGHT #: 9			AIRSP	red:	<u>NA</u>	
AMPLE LINE:	. 		ALTIT	UDE:	125	Feet
THE OF RELEASE:	0555	Hours	AURCE	AFT COU	RSE: 270	Degrees
PURATION:	VA.					
STATION G,P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 73 Blan	K				74	0.1
					75	
					76 77	
					7 <i>7</i> 78	
					79 79	
					80	
					81	
					82	
					Stations	83 - 100
						Blank

MATERIAL: 2 Fuel Oil, 1 Purple DATE: 15 July 1963			FLOW RATE	:	NA	
			SYSTEM:I		PIDAL	
FLIGHT #:	.0		AIRSPEED:		<u> </u>	
SAMPLE LINE:	A		ALTITUDE		125	Peet
TIME OF RELEASE:	0557	Hours	AIRCRAFT	COURSE:_	270	Degrees
DURATION:	KA					
STATION GG.P.A.	STATION	G.P.A.	STATION G.1	P.A.	STATION	G.P.A.
Stations 1 - 21	Blank 22 23	0.0				
4*	24	0.3				
	25	0.5				
	26	1.4				
	27	1.7				
	28	1.5				
	29	1.4				
	30	1.3				
	31	0.3				
	32	0.3				
	33	0.4				
	34	0.0				
	Stations	35 - 190	Blank			

ATERIAL: 2 Fuel	011, 1 Pu	rple	FLOW RATE:_	NA.	
ATE:15	July 1963		System:	FIDAL	~
rlight #:	11		AIRSPEED:	NA.	·
SAMPLE LINE:		 	ALTITUDE:	75	Peet
TIME OF RELEASE:	0613	Hours	AIRCRAFT CO	URSE: 270	Degrees
DURATION:	KA				
STATION G.P.A.	STATION	G.P.A.	STATION G.P.A	. STATION	_G.₽.A.
Stations 1 - 73 Bla	nk			74	1.3
				75 74	0.2
				76 77	0.0
				78	
					1.3
					0.3
					0.1
				82	0.0
				Stations	83 - 100
					Blank

MATERIAL: 2 Fuel Oil, 1 Pur	ple	PLOW RATE: NA				
DATE: 15 July 1963	<u></u> _	SYSTEM:		IDAL		
FLIGHT #: 12		AIRSPEI	D:	KA		
SAMPLE LINE: A		ALTITU	E: 75		Feet	
TIME OF RELEASE: 0615	Hours	AIRCRAI	T COURSE:_	270	Degrees	
DURATION: KA						
STATION G.P.A. STATION	G.P.A.	STATION (G.P.A.	STATION	G.P.A.	
Stataons 1 - 22 Blank 23	0.0					
24	0.5					
25	3.7					
26	4.2					
27	1.8					
	0.4					
29						
	0.2					
31	•					
	32 - 100	Black				

On 21, 23, 24, and 26 July, the pump (spray system) was operated at full capacity which gave a flow rate of approximately 315 gallons per minute when spraying Purple.

MATERIAL: Purple		FLOW RATE	:315_	(app) GPM
DATE: 21 July 1963		SYSTEM:	FIDAI	<u> </u>
FLIGHT #: 1		AIRSPEED:	166	Knots
SAMPLE LINE: A		ALTITUDE:	100	Feet
TIME OF RELEASE: 0451	Hours	AIRCRAFT	COURSE: 270) Degrees
DURATION: 09	Sec.			
STATION G.P.A. STATIO	N G.P.A.	STATION G.I	P.A. STA	TION G.P.A.
Stations 1 - 5 Blank				
6 0.1 7 0.1 8 0.1 9 0.2 10 0.2 11 0.6 12 0.6 13 1.0 14 0.6 15 0.3 16 0.9 17 0.9 18 0.7 19 3.5 20 2.4 21 2.8				
22 2.0 23 2.4 24 8.0 25 6.9 26 0.1 Stations 27 - 100 Blank				

MATERIAL: Purple	FLOW RATE: 306 (app) GPM
DATR: 21 July 1963	SYSTEM: FIDAL	
FLIGHT #: 2	AIRSPEED: 158	Knots
SAMPLE LINE: A	ALTITUDE: 100	Peet
TIME OF RELEASE: 0454 Hours	AURCRAFT COURSE: 270	Degrees
DURATION: 08 Sec.		
STATION G.P.A. STATION G.P.A.	STATION G.P.A. STATIC	N G.P.A.
Stations 1 - 58 Blank	59 0.0	
	60 0.2	
	61 0.3	
	62 0.2	
	53 0.5	
	64 0.5	
	65 2.3	
	66 2.1	
	67 1.7	
	68 2.0	
	69 2.7	
	70 2.6	
	71 4.3	
	72 4.5	
	73 3.9	
	74 6.0 75 1.7	
	76 0.1	
	Stations 77 - 100 Blank	

MATERIAL: P	urple		FLOW RATE:	315 (app)	GPM
DATE: 21	July 1963		SYSTEM:	FIDAL	<u> </u>
FLIGHT #:	3		AIRSPEED:	164	Knots
SAMPLE LINE:	Α		ALTITUDE:	125	Feet
TIME OF RELEASE	:0508	Hours	AIRCRAFT COURS	B: <u>270</u>	Degree
DURATION:	12	Sec.			
STATION G.P.A.	STATIO	N G.P.A.	STATION G.P.A.	STATION	G.P.A.
Stations 1 - 16	Blank				
17 0.0 18 1.4					
19 4.2 20 2.3					
21 3.3 22 2.4					
23 4.5					
24 4.8 25 4.7					
26 1.8					
27 0.6 28 0.5					
Stations 29 - 1	.00 Blank				

Purple		FLOW 1	rate:	300 (app) GPM
July 1963		SYSTE	M:	FIDAL	
4		AIRSP	EED :	157	Knots
Α		ALTIT	UDE:	125	Feet
0510	Hours	AIRCR	AFT COURS	E: 270	Degrees
11	Sec.				
STATION Blank	G.P.A.	STATION	G.P.A.	STATION	G.P.A,
		59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75	0.2 0.2 0.3 0.3 0.7 0.3 0.5 0.3 6.4 3.8 4.7 3.3 4.3 7.5		
	July 1963 4 A 0510 11	July 1963 4 A 0510 Hours 11 Sec.	July 1963 SYSTE A AIRSP A ALTIT	July 1963 AIRSPRED: A AIRTUDE:	July 1963 SYSTEM: FIDAL 4 AIRSPEED: 157 A ALTITUDE: 125 0510 Hours AIRCRAFT COURSE: 270 11 Sec. STATION G.P.A. STATION G.P.A. STATION Blank 58 0.0 59 0.2 60 0.2 61 0.2 62 0.3 63 0.3 64 0.3 65 0.7 66 0.3 67 0.5 68 0.3 69 6.4 70 3.8 71 4.7 72 3.3 74 7.5

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MATERIAL: Put	rple		FLOW RATE:	315 (app)	CPH.
DATE: 21 Jul	ly 1963		SYSTEM:	FIDAL	
FLIGHT #:	5		AIRSPEED:	163	Knots
SAMPLE LINE:	<u> </u>		ALTITUDE:	150	<u>Foot</u>
TIME OF RELEASE:	0528	Hours	AIRCRAFT COURS	B: 270	Degraes
DURATION:	08	Sec.			
STATION G.P.A.	STATION	G.P.A.	STATION G.P.A.	STATION	G.P.A.
Stations 1 - 10 B1	ank				
11 0.0 12 0.4					
13 0.5					
14 0.5 15 0.3					
16 1.1					
17 1.9					
18 2.7					
19 3.0 20 2.9					
20 2.9 21 2.5					
21 2.3					
23 7.0					
24 14.2					
25 0.1					
Stations 26 - 100	Blank				

HATERIAL:	Purole		PLOW 1	RATR:	306 (app)	G PM
DATE: 21 Ju	ly 1963		SYSTE	M:FI	DAL	
FLIGHT #: 6			AIRSP	BBD:	163	Knots
SAMPLE LINE: A			ALTIT	UDB:	150	Peet
TIME OF RELEASE:_	0530	Hours	AIRCR	AFT COURSE	:270	Degrees
DURATION:	10	Sec.				
STATION G.P.A.	STATION	G.P.A.	STATION	G,P,A,	STATION	G.P.A.
Stations 1 - 63 B	1 SUK					
			64	0 0		
			65			
				0.3		
			47	0.2		
			68			
			69			
			70			
			71			
			72 73	0./		
				3.4		
			74 75	3.4		
			75 76			
			76 77			
			77 78			
			76 79			
				80 - 100	Blank	

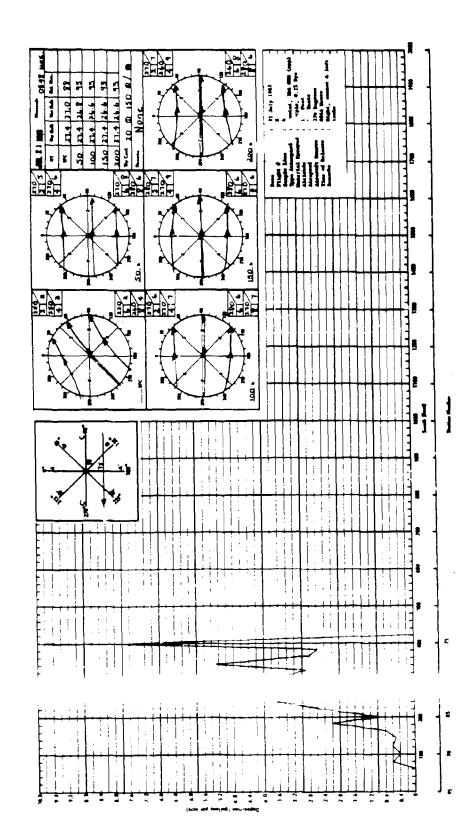
	Section 1983 11 Arty 1983 12 Arty 1983 13 Arty 1983 14 Arty 1983 15 Arty 1983 16 Arty 1983 17 Arty 1983 18
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MATERIAL: P	rple		FLOW RATE:	306 (app) GFH
DATE: 21	fuly 1963		System:	FIDAL
FLIGHT #: 7			AIRSPEED:	160 Knots
SAMPLE LINE: A			ALTITUDE:	125 Feet
TIME OF RELEASE:	0545	Hours	AIRCRAFT COU	RSE: 270 Degrees
DUBATION:	10	Sec.		
STATION G,P.A.	STATION	G.P.A.	STATION G.P.A.	STATION G.P.A.
Stations 1 - 24 B1	26 27 28 29 30 31 32 33 34 35 36 37 38	3.3 1.9 3.3 6.3 3.8 2.4 2.7 1.9 2.0 0.6 1.5 0.9		
	39 40 41 42 43	0.7 0.4 0.5 0.3	Blank	

150 214 24.4 43 200 214 24.4 43 1 0 0 150 0 / 0 31 8 2 50 274 26.6 100 274 26.6 1 x 224 22.0 1 # 17 # ŧ ď ġ g q 0,0 цi 11: ļ 1 i ĸ i Liji Į, :

MATERIAL: Pu	rple		FLOW RATE:	306 (ap)) GPM
DATE: 21 J	July 1963		SYSTEM:	FIDAL	
FLIGHT #:	8		AIRSPEED:	162	Knots
SAMPLE LINE:	<u> </u>		ALTITUDE:	125	Feet
TIME OF RELEASE:	0546	Hours	AIRCRAFT COURSE	: 270	Degrees
DUBATION:	10	Sec.			
STATION G.P.A.	STATION	G.P.A.	STATION G.P.A.		
Stations 1 - 74 1	Blank			75 76	
				77	
				78	
				79	
				80	- • -
				81	
				82	
				83	
				84	
				85	
				86	
				87	
				88	
				89	
				90	0.4
				91	0.6
					92 - 100



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MATERIAL:	Purple			_		FLOW B	ATE	:	315	(app)	GPH
DATE:	21 July 19	63		-		SYSTEM	c:		PID	IL	
FLIGHT #:	9			-		AIRSPE	ED:		166		Knots
SAMPLE LINE:	A			_		ALTIT	DB:		125	<u> </u>	Feet
TIME OF RELEA	SE:	603	Hour	<u>.</u>		AIRCRA	AFT (COURS	E:	270	Degrees
DURATION:	07		Sec	<u>.</u>							
STATION G.P. Stations 1 -	20 Blank	21 22 23 24 25 26 27 28 29 30	0.3 1.8 6.3 3.1 5.5 3.7 2.7 1.3 1.5		STA	ATION	G.P	.Α		STATION	G.P.A.
	Si	31 32 ations	0.9	100	Blank						

1

MATERIAL:	Purple	FLOW RATE:	315 (app)	GPH
DATE: 21	July 1963	SYSTEM:	FIDAL	
FLIGHT #:	10	AIRSPEED:	161	Knots
SAMPLE LINE:		ALTITUDE:	125	Feet
TIME OF RELEASE:	0605 Hours	AIRCRAFT COUR	.SE:270	Degrees
DURATION:	10 Sec.			
STATION G.P.A.	STATION G.P.A.	STATION G.P.A.	STATION	G.P.A.
Stations 1 - 68	Blank		69	0.5
			70	0.1
			71	0.1
			72	0.2
			73	
			74	3.8
			75 76	
			76 77	
			78	
			79	3.6
			80	2.0
			81	
			82	1.5
			83	0.5
			84	0.9
			85	0.9
			86	0.6
			87	0.6
			Stations	88 - 100 Blank
				D14H

MASS MEDIAN DIAMETER

DATE: 21 July 1963	CONVERSION FACTOR: 2.5
FLIGHT #: 11	PAPER: Kromekote, white
SAMPLE LINE:C	MATERIAL: Purple
FLOW RATE: 102 (app) GPM	SYSTEM: FIDAL

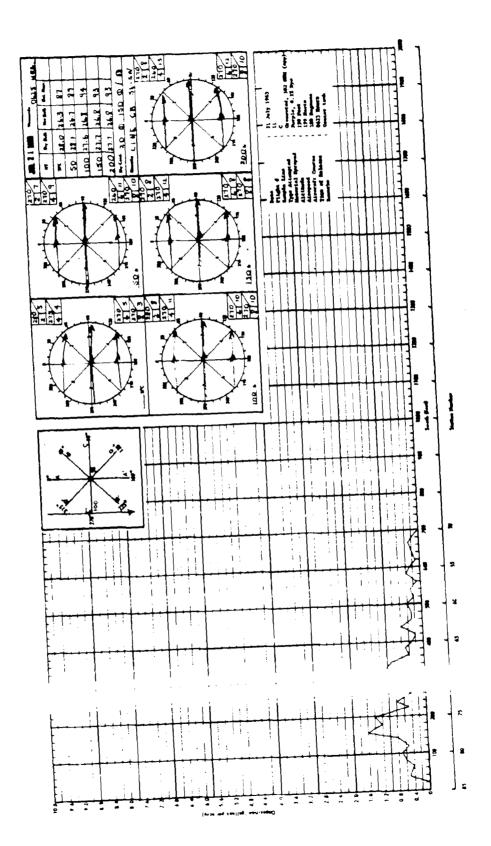
STA.	DROP #	SIZE	STA.	DROP #	SIZE
82	3	6100*			
82	1	6 000			
82	2	59 00			
82	6	570 0			
78	9	5500	51	14	100(smallest)
81	7	5400			
81	4	5300			
81	5	5200			
81	8	5100			

 $\frac{100}{100} = \frac{70.44 + 0.1431 \text{ (Spot D Max)}}{1000} = \frac{70.44 + 0.1431 \text{ (6100)}}{2.5} = 377.3 \text{ Microns}$

Max. Sph. Dia. = 70.44+0.1431 (Max) = 70.44+0.1431 (6100) = 943.4 Microns

Min. Sph. Dis. = 63 Microns

MATERIAL: Purple		FLOW	RATE: 102	(ap,)	GPM
DATE: 21 July 1963	<u> </u>	SYSTE	M:FI	DAL	
FLIGHT #: 11		AIRSP	BED:1	.59	Knots
SAMPLE LINE: C		ALTIT	UDE:	150	Feet
TIME OF RELEASE: 0623	Hours	AIRCR	AFT COURSE:	180	Degrees
DURATION: 10	Sec.				
STATION G.P.A. STATION	N G.P.A.	STATION	G.P.A.	STATION	G,P,A.
Stations 1 - 50 Blank		54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 73	0.3 0.2 0.1 0.3 0.4 0.1 0.3 0.2 0.4 0.3 0.3 0.6 0.2 0.3	80 81 82 83 Stations	1.6 0.8 0.5 0.7 0.6 0.4



MATERIAL:	Purple	<u> </u>		FLOH R	ATE:_	315 (*	PP)	CEPH
DATE: 2	July 1	963		SYSTEM	l:	FIDAL	<u></u>	
FLIGHT #:	1			AIRSPE	ED:	160		Knots
SAMPLE LINE	:B			ALTITU	DB:	100		Feet
TIME OF REL	rase:	0440	Hours	AIRCRA	FT CO	URSE:	35	Degrees
DURATION:		08	Sec.					
STATION G.	P.A	STATION	G.P.A.	STATION	G.P.A	81	CATION	G.P.A.
Stations 1	- 14 Bla	nk						
15 0.	. 2							
16 0.	.4							
17 1.	.0							
18 2.								
19 3.								
	. 6							
21 1								
22 5								
23 2								
24 3								
25 0								
Stations 2	6 - 100 1	Blank						

MATERIAL: Purple	FLOW RATE: 315 (app) GPM
DATE: 23 July 1963	SYSTEM: FIDAL
FLIGHT #:2	AIRSPEED: 160 Enots
SAMPLE LINE: B	ALTITUDE: 100 Feet
TIME OF RELEASE: 0443 Hours	AIRCRAFT COURSE: 135 Degrees
DURATION: 11 Sec.	
STATION G.P.A. STATION G.P.A. Stations 1 - 66 Blank	STATION G.F.A. STATION G.P.A.
	67 0.2 68 0.3 69 0.4 70 0.4 71 0.7 72 1.0 73 1.5 74 2.5 75 1.6 76 1.4 77 3.7 78 4.3 79 4.2 30 3.6 81 3.6 82 0.1 Stations 83 ~ 100 Blank

MATERIAL: Purple	FLOW RATE: 315	(auro) CZPM
PATERIAL. TUEPEC		
DATE: 23 July 1963	SYSTEM: FIDAL	
FLIGHT #: 3	AIRSPEED: 160	Knots
SAMPLE LINE: D	ALTITUDE: 125	Feet
TIME OF RELEASE: 0459 Hours	AIRCRAFT COURSE:_	225 Degrees
DURATION: 11 Sec.		
STATION G.P.A. STATION G.P.A.	STATION G.P.A.	STATION G.P.A.
Stations 1 - 11 Blank		
12 0.0		
13 0.1		
14 0.1		
15 0.2		
16 0.3		
17 0.7		
16 1 2		
19 3.0		
20 3.6		
21 5.3		
22 4.4		
23 6.1		
24 1.0		
25 2.8		
Stations 26 - 100 Blank		

MATERIAL: Puri	ole		FLOW R	ATE:	315 (app)	GPM
DATE: 23 July	1963		SYSTEM	:	FIDAL	
FLIGHT #:	4	·	AIRSPE	ED:	160	Knots
SAMPLE LINE:	D		ALTITU	DB:	125	Peet
TIME OF RELEASE:	0502	Hours	AIRCRA	LFT COU	RSB: 225	Degrees
DURATION:	13	Sec.				
STATION G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 58 Bl	ank					
			59	0.3		
			60 61	0.1		
			62	0.3		
			63			
			64 65	0.7		
			65 66	0.7		
			67			
			68 69			
			70			
			71 72	4.0		
			72	2.9		
			73 74			
			74 75			
			76	7.3		
			Stations	77 -	100 Blank	

100 25.5 15.1 97 150 25.5 15.1 90 150 25.5 15.6 90 150 25.3 25.6 90 150 25.3 25.6 90 150 25.3 25.6 90 \$ 1 2 T 別 F 1 1 41 JR 23 28 300 ŧ K 野 g 150. 200 Ķ 981 41111111 *,* i 11 Î, 111 į, 3 1, 2 Separation periods -

ple		FLOW RATE	:315_((app)	CPM.
ly 1963		SYSTEM:_	FIDAI		
		AIRSPEED:	160	 	Knots
		ALTITUDE:	12	<u> </u>	Feet
0518	Hours	AIRCRAFT	COURSE:	270	Degrees
	Sec.				
MOITATE	G.P.A.	STATION G.F	·.A.	STATION	G.P.A.
24 25 26 27 28 29 30 31 32 33	4.0 2.4 1.7 4.2 7.7 7.7 2.5 1.5 0.5 0.4 0.3				
	0518 11 STATION lank 23 24 25 26 27 28 29 30 31 32 33 34	0518 Hours 11 Sec. STATION G.P.A. lank 23 9.7 24 4.0 25 2.4 26 1.7 27 4.2 28 7.7 29 7.7 30 2.5 31 1.5 32 0.5 33 0.4 34 0.3	AIRSPEED: ALTITUDE: O518 Hours AIRCRAFT 11 Sec. STATION G.P.A. STATION G.F. lank 23 9.7 24 4.0 25 2.4 26 1.7 27 4.2 28 7.7 29 7.7 30 2.5 31 1.5 32 0.5 33 0.4 34 0.3	SYSTEM: FIDAL AIRSPEED: 160 ALTITUDE: 12: 0518	SYSTEM: FIDAL AIRSPEED: 160 ALTITUDE: 125 O518

130 24.0 14.1 19. in aly ind 36 7 4.25 22.6 1 25.2 24.9 148 247 12.5 ģ • तुर 10 沿沿 9 ., **±** ¥ . i i r,

MATERIAL: Purple	FLOW RATE: 315	app)	CPA
DATE: 23 July 1963	SYSTEM: FIDA	L	
FLIGHT #: 6	AIRSPERD: 160		Knots
SAMPLE LINE: A	ALTITUDE:	125	Feet
TIME OF RELEASE: 0520 Hours	AIRCRAFT COURSE:	270	Degrees
DURATION: 11 Sec.			
STATION G.P.A. STATION G.P.A.	STATION G.P.A.		
Stations 1 - 73 Blank		74	2.9
		75	3.0
		76	
		77 70	
		7 8 79	
		80	
		81	
		82	1.4
		83	
		84	
		85	
		86	
		87	0.7
		88	0.4
		Stations	89 - 100
			Blank

addie Dafe and Smith San of Community Community

MATERIAL: Purple	FLOW RATE:	315 (app)	GPH
DATE: 23 July 1963	SYSTEM:	FIDAL	
FLIGHT #: 7	AIRSPEED:	160	Knots
SAMPLE LINE: A	ALTITUDE:	150	
TIME OF RELEASE: 0536 Hours	AIRGRAFT CO	CRSE:_270	Degrees
DURATION: 07 Sec.			
STATION G.P.A. STATION G.P.A.	STATION G.P.A	. STATION	G.P.A.
Stations 1 - 75 Blank		76	7.6
		7 7	1.4
		78	2.4
		79	2.1
		80	5.0
		81	
		82	
		83	- • •
		84	
		85	1.3
		86	
		87	
		88	
		89	
		90	
		91	
		92	0.1
		Stations	93 - 100
			Blank

MATERIAL:	Purple		FLOW RATE:	315 (app)	CEM
DATE: 23 .	July 1963		SYSTEM:	FIDAL	
FLICHT #:	8		AIRSPEED:_	160	Knot s
SAMPLE LINE:	A		ALTITUDE:_	150	Pest
TIME OF RELEASE:	0538	Hours	AIRCHAFT O	OURSE: 270	Degrees
DURATION:	10	Sec.			
STATION G.P.A.	STATION	G.P.A.	STATION G.P.	A. STATIO	G.P.A.
Stations 1 - 23	Blank 24	0.0			
	25				
		1.5			
		2.3			
		3.5			
	29				
		4.2			
		3.5			
		2.7			
		1.8			
		1.0			
	35				
	36	0.2			
	37	0.1			
	38	0.0			
	Cenelana	30 100	911		

MATERIAL: Pu	rple		FLOW RATE:	315 (app)	<u>CEN</u>
DATE: 23	July 1963		878TEM:	FIDAL	
FLIGHT #: 9			AIRSPEED:	160	Enote
SAMPLE LIME: B			ALTITUDE:	150	Post
TIME OF RELEASE:_	9553	Hours	AIRCRAFT CO	RSE: 315	Degrees
DURATION:	08	Sec.			
STATION G.P.A. Stations 1 - 16 E	STATION	G.P.A.	STATION G.P.A.	STATION	G.R.A.
Stations 1 - 10 E	14nk				
	٠,				
17 0.1 18 0.0					
19 0.8					
20 2.4					
21 2.3					
22 3.8					
23 1.4 24 1.9					
25 5.7					
26 11.5					
27 4.5					
28 0.4					
29 0.2					
Stations 30 - 10	0 Blank				

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MATERIAL: Purple	FLOW RATE: 315 (app) CIPM
DATE: 23 July 1963	SYSTEM: FIDAL	
FLIGRE #: 10	AIRSPEED: 160	Knots
SAMPLE LINE: B	ALTITUDE: 150	Feet
TIME OF RELEASE: 0555 Hours	AIRCHAFT COURSE: 3	15 Degrees
DURATION: 08 Sec.		
STATION G.P.A. STATION G.P.A.	STATION G.P.A. STA	TION G.P.A.
Stations 1 - 66 Blank		
	67 0.3	
	68 0.3 69 0.5	
	70 1.1 71 2.3	
	72 4,2	
	73 3.1 74 1.5	
	75 1.7 76 3.3	
	77 10.6	
	78 2.4 79 0.5	
	80 0.0	
	81 0.3 82 0.3	
	Stations 83 - 100 Blank	

MATERIAL: Pu	rple		FLOW RATE:_	315 (app)	CPN
DATE: 23 Ju	ly 1963		SYSTEM:	FIDAL	
FLIGHT #:	11		AIRSPEED:	160	Knots
SAMPLE LINE:	В		ALTITUDE:	125	Peet
TIME OF RELEASE:	0611	Hours	AIRCRAFT 00	URSE: 315	Dagrees
DURATION:	07	Sec.			
STATION G.P.A.	STATION	G.P.A.	STATION G.P.A	. STATION	G. P.A.
	27 28 29 30 31 32 33 34	2.9 1.9 3.6 5.2			
	36 37 38 39 40 41 42 43 44	0.2 0.2 0.2 0.0 0.1 0.1 0.2 0.6 0.1 0.1 8 46 - 100	Blank		

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MATERIAL: Purple	FLOW RATE:_	315 (app)	GPH
DATE: 23 July 1963	SYSTEM:	FIDAL	
FLIGHT #: 12	AIRSPEED:	160	Knots
SAMPLE LINE: B	ALTITUDE:	125	Feet
TIME OF RELEASE: 0613 Hours	AIRCRAFT CO	URSE: 315	Degrees
DURATION: 09 Sec.			
STATION G.P.A. STATION G.P.A.	STATION G.P.A	. STATION	G.P.A.
Stations 1 - 74 Blank		75	4.5
		76	
		77	
		78	. , -
		79	
		80	
		81	
		82	
		83	
		84	
		85	
		86	
		87	
		88	
		89	
		90	
		Stations	91 - 100
			Blani

MATERIAL: Purple	FLOW RATE:	315 (app)	CEN
DATE: 24 July 1963	SYSTEM:	FIDAL	
FLIGHT #: 1	AIRSPEED:	160	Knots
SAMPLE LINE: C	ALTITUDE:_	100	Peet
TIME OF RELEASE: 0456 Hours	AIRCRAFT O	OURSE: 360	Degrees
DURATION: 07 Sec.			
STATION G.P.A. STATION G.P.A. Stations 1 - 50 Blank	STATION G.P.	A. STATION	_G.P.A.
Stations 1 - 50 Blank	51 0.7	76	3.1
	52 0.5	77	2.2
	53 0.6	78	3.9
	54 0.3	79	3.1
	55 0.0 56 0.0	80	3.7
	56 0.0	81	3.1
	57 0.5		1.5
	58 0.3		
	59 0.2		0.9
	60 0.2	85	
	61 0.0 62 0.2		0.3
	63 0.2		0.7
	64 0.1		
	65 0.2		
	66 0 1	01	0.2
	67 0.2	92	0.4
	68 0.0	ڏو	0.3
	69 0.1		
	70 0.3		
	71 0.1	96	Ū.2
	72 0.2	97	0.1
	73 1.4		
	74 1.6		
	75 1.7	100	0.3

MATERIAL: Purpl	<u>e</u>		PLOW B	ATE: 31	5 (sepp)	GPM
DATE: 24 July	1963		SYSTE	(:	FIDAL	
FLIGHT #: 2 SAMPLE LINE: C		AIRSPRED: 160			Knots	
		ALTIT	JDE :	100	Feet	
TIME OF RELEASE:	0459	Hours	AIRCR	AFT COURSE	: 360	Degrees
DURATION:	10	Sec.				
STATION G.P.A.	STATION	G P A.	STATION	G P A.	STATION	G.P.A.
Stations 1 - 30 B	lank 31	2.3	0 2 10 2 2 2 1	411.101	V1811VII	Air iri
	32	3.7				
	33	0.9				
		0.9				
		2.2				
	36					
	37					
	38					
	39					
	40	- • -				
	41					
	42					
	43					
	44					
	45					
	46	1.1				
	47	1.1				
	48	1.1	****			
	49					
	-	0.7	B11.			
	Station	s 51 - 100	DIEUK			

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HATERIAL: Pur	ole		FLOW RATE:	315 (app)	GPM
DATE: 26 July	y 1963		SYSTEM:	FIDAL	
FLIGHT #:	_1		AIRSPEED:	160	Knots
SAMPLE LINE:			ALTITUDE:	150	<u> </u>
TIME OF RELEASE:	0446	Hours	AIRCRAFT COU	RSE: 090	Degrees
DURATION:	11	Sec.			
STATION G.P.A.	STATION	G.P.A.	STATION G.P.A.	STATION	G.P.A.
Stations 1 - 27 Bl	29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44	5.6 9.5 2.9 2.6 2.1 2.3 2.1 2.2 2.9 1.5 1.0 1.1 0.4 0.3 0.1 0.3			

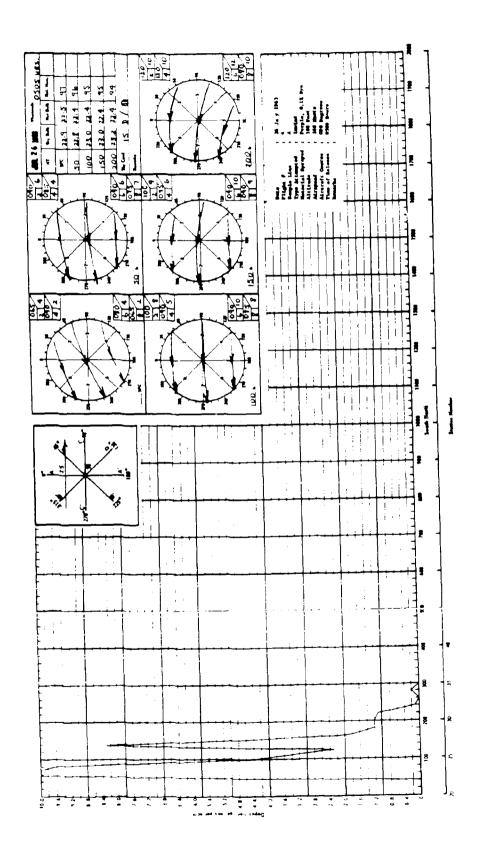
MATERIAL:	Purple		FLOW R	ATE:	15 (2	pp)	CPM
DATE: 2	26 July 1963		SYSTEM	i:	FII	DAL	
FLIGHT #:	2		AIRSPE	EED:	160		Knots
SAMPLE LINE:	Α		ALTIT	DB:	150		Feet
TIME OF RELEAS	SE: 0449	Hours	AIRCE	AFT COUE	SE:	090	Degrees
DURATION:	08	Sec.					
STATION G.P.	A. STATION	G.P.A.	STATION	G.P.A.		STATION	G.P.A.
Stations 1 -	74 Blank			<u> </u>		75	5.8
						76	5.9
							4.7
							1.5
						79	2.1
							2.5
						81	
						82	
						83	
						84	
						85	
						86	
						87	
						88	
						89	
						Stations	9^ - 100 Blank

)

MATERIAL: Purp	le		FLOW R	ATE:	315 (app)	GPN
DATE: 26 July 19	63		SYSTEM	[:	FIDAL	
FLIGHT #: 3			AIRSPE	.BD:	160	Knots
SAMPLE LINE: A			ALTITO	DE:	100	Feet
TIME OF RELEASE:	0507	Hours	AIRCEA	AFT COURS	BE: 090	Degrees
DURATION:	05	Sec.				
STATION G.P.A. Stations 1 - 68 1	STATION Slank	G.P.A.	STATION	G.P.A.	MOITATE	G.P.A.
			69 70 71 72 73 74 75 76 77 78 79 80 81 Stations	0.1 0.9 1.5 7.1 6.5 1.1 0.8 1.7 2.7 3.3 0.4 0.0	O Blank	

= :

Alberta de la companya | HATERIAL: | Purple | | PLOW B | ATE: | 315 (app) | GPH |
|---------------------------------|---|---------------------------|---------|---------|-----------|----------|
| DATE: | 26 July 1963 | | SYSTE | ı: | FIDAL | |
| FLIGHT #: | 4 | | AIRSPI | RED: | 160 | Knots |
| SAMPLE LINE: | | | ALTIT | UDE: | 100 | Peet |
| TIME OF RELEASE: | 0509 | Hours | AIRCRA | AFT COU | RSE: 090 | Degrees |
| DURATION: | 07 | Sec. | | | | |
| STATION G.P.A. Stations 1 - 21 | B lank 22
23
24
25
26
27
28
29
30
31
32
33 | 0.0
11.0
9.5
4.3 | STATION | G.P.A. | STATIO | N G.P.A. |
| | _ | 35 - 100 | Blank | | | |



HATERIAL: Pu	rple		FLOW B	LATE:	315	(app)	CFN
DATE: 26 Ju	ly 1963		SYSTE	ı:		DAL	
FLIGHT #: 5			AIRSPE	KED:_	160		Knots
SAMPLE LINE: A			ALTITU	DE:_	125		Poet
TIME OF RELEASE:	0524	Hours	AIRCEA	UFT C	OURSE:_	090	Degrees
DURATION:	06	Sec.					
Stations 1 - 25 Bl	STATION ank 26 27	3.8	MOITATE	G.P.	A	STATION	G.P.A.
	28 29 30 31	2.8					
	32 33 34	1.1					
	35 36 37 38 Stations	0.9	Blank				

MATERIAL: P	urple		PLOW I	LATE:	315 (арр)	CEN
DATE: 26 J	uly 1963		SYSTE	d:	FIDAL	
FLICHT #: 6			AIRSP	EED:	160	Knots
SAMPLE LINE:	Α		ALTIT	UDE:	125	Feet
TIME OF RELEASE:	0526	Hours	AIRCR	AFT COU	RSE:	
DURATION:	09	Sec.				
STATION G.P.A. Stations 1 - 64 Bla		G,P,A,	STATION	G.P.A.	STATION	G.P.A.

65 0.0 66 0.0 **67** 1.1 68 4.2 69 6.2 9.5 7.3 1.5 70 71 72 73 0.9 2.7 74 75 6.1 0.3 76 77 0.3 Stations 78 - 100 Blank

Total 40.0

HASS MEDIAN DIAMETER

DATE: 26 July 1963	CONVERSION FACTOR: 2.5
FLIGHT #:7	PAPER: Kromekote, white
SAMPLE LINE: C	MATERIAL: Purple
PLON RATE: 315 (app)	SYSTEM: FIDAL

STA.	DROP #	SIZE	STA,	DROP #	SIZE
55	1	6800			
57	4	67 0 0			
55	3	6600			
55	5	6200*			
57	10	6100	100	1A	100 (smallest)
55	2	6000			•
55	6	5900			
55	7	5800			
55	3	5700		•	
55	9	5600			
55	11	5500		,	

 $\frac{1800}{\text{Con. Factor}} = \frac{70.44 + 0.1431 (\text{Spot D Max})}{2.5} = \frac{70.44 + 0.1431 (6200)}{2.5} = 383.1 \text{ Microns}$

Max. Sph. Dia. = 70.44+0.1431 (Max Spot) = 70.44+0.1431 (6800) = 1043.5 Microns

Min. Sph. Dis. = 63 Microns

MATERIAL: Purple	FLOW I	RATE:	315 (app)	GPM
DATE: 26 July 1963	SYSTE	M:	FIDAL	
rlight #:7	AIRSP	EED:1	60	Knots
SAMPLE LINE: C	ALTIT	ude:	100	Feet
TIME OF RELEASE: 0543 Hours	AIRCR	AFT COUR	SE: 360	Degrees
DURATION: 04.5 Sec.				
STATION G.P.A. STATION G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 53 Blank	54	0.1	79	
	55	0.9	80	0.6
	50 57	1.6 1.6	81 82	0.0
•	58	2.7	83	0.3
		2.2	84	0.3
		4.3	85	
		5.3	86	0.1
	62	4.7	87 88 89 90	0.0
	63	2,9 1,6	88	C.1
	64	1.6	89	၇.3
		1.4	90	0.3
			Stations	
	67 6ε			Blank
	69			
	71	0.0		
	72	0.1		
	73	0.5		
	74	0.4		
	75			
	76	0.0		
	7.7 7.5	0.0 3		

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HASS MEDIAN DIAMETER

DATE:	26 July 1963	CONVERSION	FACTOR: 2.5
FLIGHT #	:8	PAPER:	Kromekote, white
SAMPLE L	INE: C	HATERIAL:_	Purple
FLOW RAT	TE: 315 (app)	SYSTEM:	FIDAL

STA.	DROP #	SIZE	STA,	DROP #	SIZE
9	3	5900*			
9	4	5800			
8	1	5700			
9	2	560 0	50	14	100
9	7	5400			
9	5	5300			
9	6	5200			
9	8	5100			
9	9	5000			

1940 = 70,44+0,1431(Spot D Max) = 70,44+0,1431(5900) = 365.9 Microns Con. Factor 2.5

Max. Sph. Dia. = 70.44+0.1431(Max Spot) = 70.44+0.1431(5900) = 914.7

Microns

Min. Sph. Dia. = 63 Microns

MATERIAL:	Purple		FLOW RATE:	315 (app)	GPN
DATE:	26 July 1963		SYSTEM:	FIDAL	
FLIGHT #:	8		AIRSPEED: 1	6 0 Kr	ots
SAMPLE LINE:	c		ALTITUDE:	100 F	eet
TIME OF RELEASE	3:0546	Hours	AIRCRAFT COUR	SE: 360 Degi	ees
DURATION:	07	Sec.			
STATION G.P.A Stations 1 - 8	STATION Blank	G,P,A,	STATION G.P.A.	STATION G.I	₽ . A
•					
9 0.6					
11 0.5 12 0.5					
13 1.2 14 0.9				•	
15 0.8 16 0.5					
17 0.3 18 0.4					
19 0.5 20 0.3					
21 0.1 22 0.2					
23 0.0 Stations 24 -	190 Blank				

MASS MEDIAN DIAMETER

DATE:	26 July 1963	CONVERSION	FACTOR: 2.5
FLIGHT #:	9	PAPER:	Kromekote, white
SAMPLE LINE:	C	MATERIAL:	Purple
FLOW RATE:	315 (app)	SYSTEM:	FIDAL

STA,	DROP #	SIZE	STA.	DROP #	SIZE
<u>STA,</u> 53	1	9000			
54	2	7000*			
54	4	6800			
54	6	670 0			
54	3	6500			
54	5	6300			
54	7	6200			
54	9	6100			
54	8	6000			
54	10	5900			

MMD = 70,44+0,1431(Spot D Max) = 70,44+0,1431(7000) = 428.8 Microns
Con. Factor 2.5

Max. Sph. Dia. = 70.44+0.1431(Max Spot) = 70.44+0.1431(9000) = 1358.3 Microns

Min. Sph. Dia. = 63 Microns

MATERIAL: Purple	FLOW RATE:	315 (app) GPM
DATE: 26 July 1963	SYSTEM:	PIDAL
FLIGHT #: 9	AIRSPEED: 1	60 Knots
SAMPLE LINE: C	ALTITUDE:	100 Feet
TIME OF RELEASE: 0600 Hour	AIRCRAFT COURS	B: 360 Degrees
DURATION: 05 Sec	<u>.</u>	
STATION G.P.A. STATION G.P.A.	STATION G,P,A,	STATION G.P.A.
Stations 1 - 51 Blank		76 0.2
	52 0.0	77 0.2
	53 0.0	77 0.2 78 0.1 79 0.1
	54 0.6	79 0.1 80 0.2
	55 0.5 56 1.1	81 0.1
		82 0.1
	57 2.5 58 2.2	83 0.1
	59 2.3	84 0.1
	60 2.1	85 0.2
	61 4.9	86 0.4
	62 1.3	87 0.3
	. 63 1.6	88 0.1
	64 1.3	88 0.1 89 0.1 90 0.1
	65 1.2	90 0.1
	66 1.2	91 0.1
	67 0.7	92 0.1
	68 0.9	93 0.0
	69 0.5	
	70 0.5	Blan
	71 0.5	
	72 C.4	
	73 0.3	
	74 0.2	
	75 0.3	

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MASS MEDIAN DIAMETER

DATE: 26 July 1963	CONVERSION FACTOR: 2.5
FLIGHT #: 10	PAPER: Kromekote, white
SAMPLE LINE: C	MATERIAL: Purple
FLOW RATE: 315 (app)	SYSTEM: FIDAL

STA.	DROP #	SIZE	STA,	DROP #	SIZE
7	1	7200			
7	2	7100			
8	3	6800*			
4	5	6700			
8	4	6500			
9	11	6300	50	1.4	100(smallest)
10	10	6200			****
10	9	6000			
5	7	5800			
8	8	5700			
5	6	5500			

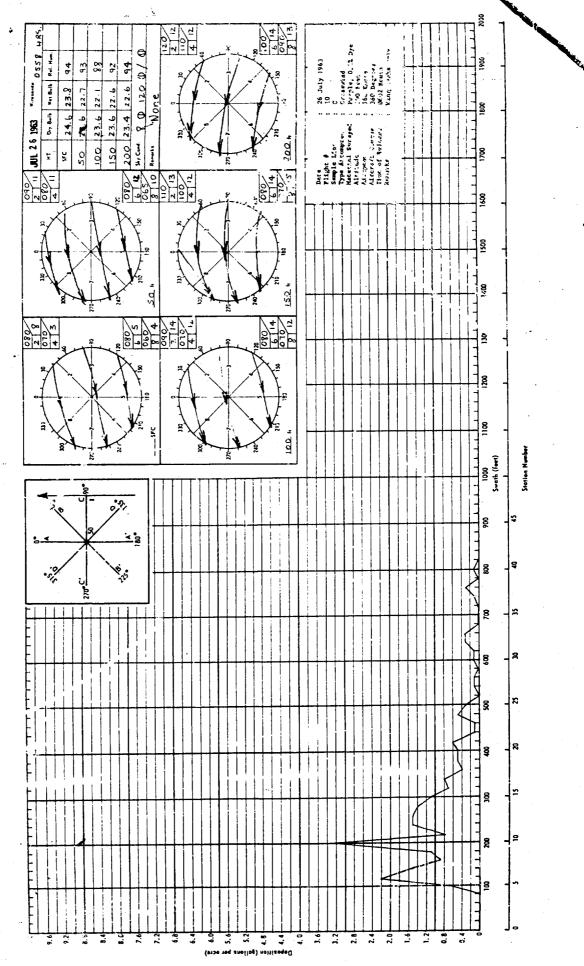
$$\frac{1900 = 70.44 + 0.1431 \text{ (Spot D Hax)}}{\text{Con. Factor}} = \frac{70.44 + 0.1431 \text{ (6800)}}{2.5} = 417.4 \text{ Microns}$$

Max. Sph. Dia. = 70.44+0.1431 (Max Spot) = 70.44+0.1431(7200) = 1100.1 Microns

Min. Sph. Dia. = 63 Microns

MATERIAL: Purp	<u>le</u>				FLOW	RATE:	31	5 (app)	GPM
DATE: 26 July	1963	·			SYSTE	м:	FI	DAL:	ger W.Jumpu gariffikagi.
FLIGHT #: 10					AIRSP	EED:	16	0	Knots
SAMPLE LINE: C					ALTIT	UDE:	10	0	Feet
TIME OF RELEASE:	0602	llour	s		AIRCR	AFT COU	RSE:_	360	Degrees
DURATION:	06.5	Sec	•						
STATION C.P.A. Stations 1 - 3 Blank	STATION	G.P.A	١	STA	MOITA	G.P.A.		STATION	G.P.A.
4 0.0 5 0.7 6 2.2 7 1.5 8 0.9 9 1.1 10 3.2 11 0.8 12 1.5 13 1.5 14 1.4 15 1.1 16 0.7	27 28 2) 30 31 32 33 34 35 36 37 38 39	0.1 0.3 0.1 0.3 0.3 0.0 0.0 0.0 0.1 0.3							

Total 22.1



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